GA-7TEWH

Dual Xeon Processor Motherboard

USER'S Manual

Xeon® Processor Motherboard

Rev. 1001

* The WEEE marking on the product indicates this product must not be disposed of with user's other household waste and must be handed over to a designated collection point for the recycling of waste electrical and electronic equipment!!

* The WEEE marking applies only in European Union's member states.

Table of Contents

Item Checklist 4
Chapter 1 Introduction 5
1.1. Considerations Prior to Installation 5
1.2. Features Summary 6
1.3. GA-7TEWH Motherboard Component 8
Chapter 2 Hardware Installation Process 11
2.1.Installing Processor and CPU Haet Sink 11
2.1.1. Installing CPU 11
2.1.2. Installing Heat Sink 12
2.2. Installing memory modules 13
2.3. Connect ribbon cables, cabinet wires, and power supply 17
2.3.1. I/O Back Panel Introduction 17
2.4. Connectors Introduction 20
2.5. Jumper Setting 29
Chapter 3 BIOS Setup 31
Main 33
Advanced 34
Processor Configuration 35
Power Management 39
Memory Configuration 42
Advanced Chipset Configuration 44
PCI Configuration 48
SATA Configuration 50
I/O DeviceConfiguration 52
Boot DeviceConfiguration 54
Haradware Monitor 56
Power 57
Security 59
Server 61

System Management 62
Console Redirection 63
Boot 65
Exit 66

Item Checklist

- ☑ The GA-7TEWH motherboard
- ☑ Serial ATA cable x 6
- ☑ I/O Shield Kit
- ☑ CD for motherboard driver & utility
- ☑ GA-7TEWH quick reference guide

* The items listed above are for reference only, and are subject to change without notice.

Chapter 1 Introduction

1.1. Considerations Prior to Installation

Preparing Your Computer

The motherboard contains numerous delicate electronic circuits and components which can become damaged as a result of electrostatic discharge (ESD). Thus, prior to installation, please follow the instructions below:

1. Please turn off the computer and unplug its power cord.
2. When handling the motherboard, avoid touching any metal leads or connectors.
3. It is best to wear an electrostatic discharge (ESD) cuff when handling electronic components (CPU, RAM).
4. Prior to installing the electronic components, please have these items on top of an antistatic pad or within a electrostatic shielding container.
5. Please verify that the power supply is switched off before unplugging the power supply connector from the motherboard.

Installation Notices

1. Prior to installation, please do not remove the stickers on the motherboard. These stickers are required for warranty validation.
2. Prior to the installation of the motherboard or any hardware, please first carefully read the information in the provided manual.
3. Before using the product, please verify that all cables and power connectors are connected.
4. To prevent damage to the motherboard, please do not allow screws to come in contact with the motherboard circuit or its components.
5. Please make sure there are no leftover screws or metal components placed on the motherboard or within the computer casing.
6. Please do not place the computer system on an uneven surface.
7. Turning on the computer power during the installation process can lead to damage to system components as well as physical harm to the user.
8. If you are uncertain about any installation steps or have a problem related to the use of the product, please consult a certified computer technician.

Instances of Non-Warranty

1. Damage due to natural disaster, accident or human cause.
2. Damage as a result of violating the conditions recommended in the user manual.
3. Damage due to improper installation.
4. Damage due to use of uncertified components.
5. Damage due to use exceeding the permitted parameters.
6. Product determined to be an unofficial Gigabyte product.

1.2. Features Summary

Form Factor	• 12" x 13" EATX size form factor, 8 layers PCB
CPU	• Supports Dual Intel® Xeon® Nehalem-EP 2S processors • Xeon® Quad Core in LGA 1366 socket • Supports QuickPath Interconnect up to 6.4GT/s • Enhanced Intel SpeedStep Technology (EIST) & Demand Based Switch (DBS) • Support Intel Virtualization Technology (VT)
Chipset	• Intel® 5520 (Tylersburg-36D) Chipset • Intel® 82801JR (ICH10R)
Memory	• 12 x 1.5V DDR3 DIMM sockets supporting up to 96 GB of system memory • 3 channel memory architecture • Support 800/1066/1333 memory • Support ECC RDIMM/ UDIMM
I/O Control	• ITE IT8720F Super I/O
Expansion Slots	• 1 PCI slots 32-Bit/33MHz (5V) • 1 PCI-E x16 slot (Gen2 x16 bandwidth) • 1 PCI-Express x8 slots (Gen2 at x8 bandwidth) • 1 PCI-Express x8 slots (Gen2 at x4 bandwidth) • 1 PCI-Express x8 slots (Gen 1 at x4 bandwidth) • 1 SO-DIMM for add-on SAS RAID card (optional device)
SATA RAID Controller	• Intel® ICH10R SATA Controller • Supports 6 independant SATA 3.0 Gb/s with Software RAID 0,1, 5,10
On-Board Audio	• Realtek® ALC889A HD Audio Codec
IEEE1394A	• TI TSB43AB23
On-Board LAN	• Intel® 82567LM and 82574L GbE controllers support Gigabit Ethernet ports • Supports QuickData DMA engine/TCP acceleration/IA-optimized TCP stack/DCA(Direct Cache Access)/LLI, MSI-X,RSS
Internal Connector	• 2 x 8-pin ATX power connector • 1 x 24-pin ATX power connector • 6 x SATA 3.0Gb/s connectors • 1 x Serial connector (COM) • 1 x Audio connector • 1 x IEEE 1394 connector

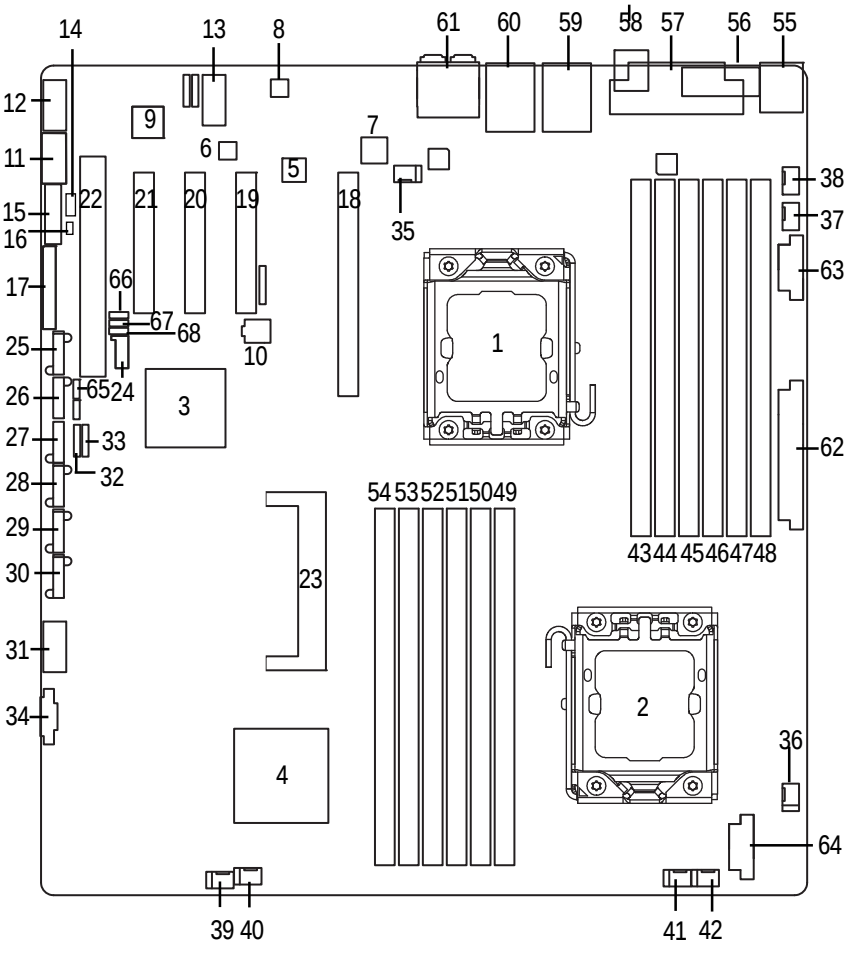
	• 1 x USB 2.0 connector for additional 2 ports by cable • 1 x front panel connecctor • 1 x PSMI connecctor • 6 x System fan cable connector • 2 x CPU fan cable connectors
Rear Panel I/O	• P/S 2 Keyboard and Mouse Connectors • 1 x Serial port • 1 x Parallel port supports Normal/EPP/ECP mode • 1 x IEEE 1394 port • 4 x USB 2.0 dual-port connector • 2 x RJ45 LAN ports • 6 x Audio ports (4 x Line-out/ 1 x Line-in/ 1 x MIC)
Hardware Monitor	• Winbond 83792G controller • Enhanced features with CPU Vcore, 1.5V reference, VCC3 (3.3V) , VBAT3V, +5VSB, CPUA/B Temperature, and System Temperature Values viewing • CPU/Power/System Fan Revolution Detect • CPU shutdown when overheat • System Voltage Detect • Support basic ASF remote transaction through CSA Bus with hardware circuit
BIOS	• Phoenix BIOS on 16Mb flash RAM
Additional Features	• Supports S4, S5 under Windows Operating System • Wake on LAN (WOL) • Wake on Ring (WOR) • AC Recovery • Supports Console Redirection • Supports 4-pin Fan controller

1.3. GA-7TEWH Motherboard Component

No	Code	Description
1.	CPU1	Primary CPU
2.	CPU2	Secondary CPU
3.	U82	Intel Tylersburg-36D IOH
4.	U60	Intel ICH10R
5.	U188	Winbond W83792G
6.	U208	Intel 82567LM GbE
7.	U207	Intel 82574L GbE
8.	AU1	Realtek ALC 889A
9.	U210	TSB43AB23 1394 chipset
10.	U34	BMC Flash ROM
11.	COM2	COM2 connector
12.	F_1394	Front 1394 connector
13.	AUDIO_ACZ1	Front Audio connector
14.	SPDIF_JP1	SPDIF JP1 jumper
15.	BAT	CMOS battery
16.	CASE_OPEN	Case open intrusion
17.	F_PANEL1	Front panel connector
18.	PCI-E1	PCI-E x16 slot (Gen2 at x16 bandwidth)
19.	PCI-E2	PCI-E x8 slot (Gen2 at x8 bandwidth)
20.	PCI-E3	PCI-E x8 slot (Gen2 at x4 bandwidth)
21.	PCI-E4	PCI-E x8 slot (Gen1 at x4 bandwidth)
22.	PCI5	PCI 32bit/33MHz slot
23.	PCIE_SODIM	SO-DIMM for SAS RAID card
24.	J3	SMBus connector for B/P board
25.	SATA5	SATA5 data cable connector
26.	SATA4	SATA4 data cable connector
27.	SATA3	SATA3 data cable connector
28.	SATA2	SATA2 data cable connector
29.	SATA1	SATA1 data cable connector
30.	SATA0	SATA0 data cable connector
31.	USB1	Front USB connector
32.	SGPIO_JP1	SGPIO JP1 jumper
33.	SGPIO_JP2	SGPIO JP2 jumper
34.	PSMI	SMBUS connector for power supply
35.	FAN_CPU1	CPU1 fan cable connector
36.	FAN_CPU2	CPU2 fan cable connector

No	Code	Description
37.	FAN_SYS6	System fan 6 cable connector
38.	FAN_SYS5	System fan 5 cable connector
39.	FAN_SYS4	System fan 4 cable connector
40.	FAN_SYS3	System fan 3 cable connector
41.	FAN_SYS2	System fan 2 cable connector
42.	FAN_SYS1	System fan 1 cable connector
43.	DIMMC1	Channel C slot 1 (for primary CPU)
44.	DIMMC2	Channel C slot 2 (for primary CPU)
45.	DIMMB1	Channel B slot 1 (for primary CPU)
46.	DIMMB2	Channel B slot 2 (for primary CPU)
47.	DIMMA1	Channel A slot 1 (for primary CPU)
48.	DIMMA2	Channel A slot 2 (for primary CPU)
49.	DIMMD2	Channel D slot 2 (for secondary CPU)
50.	DIMMD1	Channel D slot 1 (for secondary CPU)
51.	DIMME2	Channel E slot 2 (for secondary CPU)
52.	DIMME1	Channel E slot 1 (for secondary CPU)
53.	DIMMF2	Channel F slot 2 (for secondary CPU)
54.	DIMMF1	Channel F slot 1 (for secondary CPU)
55.	KB_MS	PS/2 Keyboard/Mouse ports
56.	COMA	Serial port
57.	LPT1	Parallel port
58.	1394_1	1394a port
59.	GLAN1	Gigabit LAN port and USB ports
60.	GLAN2	Gigabit LAN port and USB ports
61.	AUDIO1	Audio ports
62.	ATX	24-pin Power connector
63.	12V_AUX2	CPU2 8-pin Power connector
64.	12V_AUX1	CPU1 8-pin Power connector
65.	CLR_CMOS	Clear CMOS jumper
66.	CLR_RTC	Clear RTC jumper
67.	BIOS_RVCR	BIOS Recovery jumper
68.	PASS_DIS	Password Disable jumper

GA-7TEWH Motherboard



Chapter 2 Hardware Installation Process

2.1. Installing Processor and CPU Haet Sink

CAUTION

Before installing the processor and cooling fan, adhere to the following cautions:

1. The processor will overheat without the heatsink and/or fan, resulting in permanent irreparable damage.
2. Never force the processor into the socket.
3. Apply thermal grease on the processor before placing cooling fan.
4. Please make sure the CPU type is supported by the motherboard.
5. If you do not match the CPU socket Pin 1 and CPU cut edge well, it will cause improper installation. Please change the insert orientation.

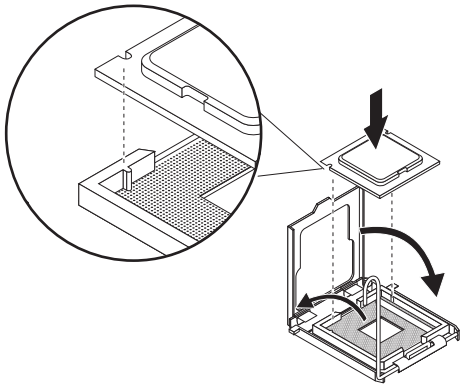
2.1.1. Installing CPU

Step 1 Raise the metal locking lever on the socket.

Step 2 Remove the plastic covering on the CPU socket.

Step 3 Insert the CPU with the correct orientation. The CPU only fits in one orientation.

Step 4 Once the CPU is properly placed, please replace the metal cover and push the metal lever back into locked position.

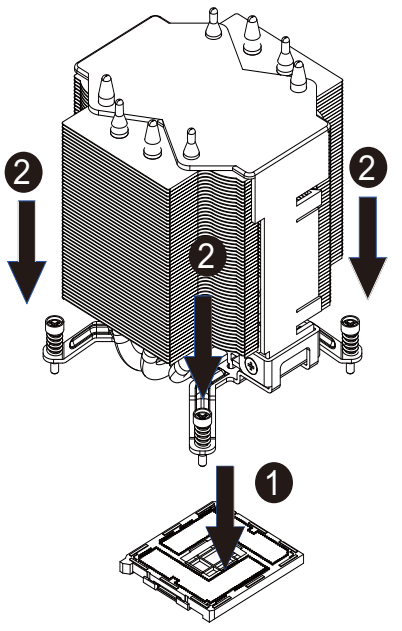


2.1.2. Installing Heat Sink

Step 1 Attach the heat sink clip to the processor socket.

Step 2 Secure the cooing fan with screws.

Step 3 Connect processor fan can cable to the processor fan connector



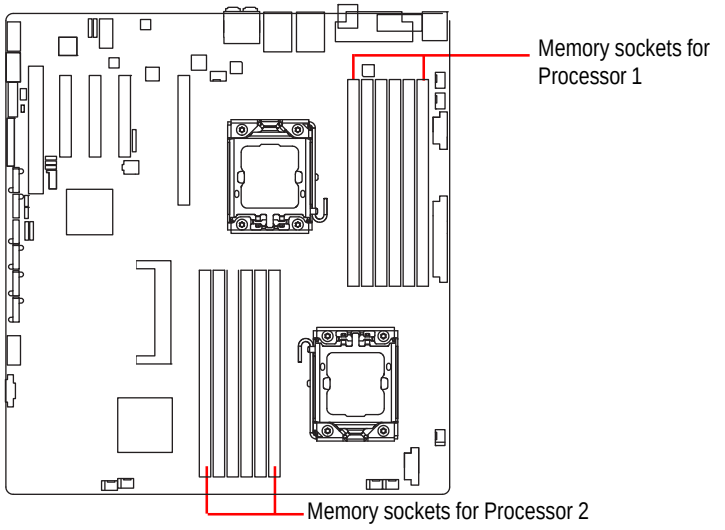
2.2. Installing memory modules

CAUTION

Before installing the memory modules, please comply with the following conditions:

1. Please make sure that the memory is supported by the motherboard. It is recommended to use the memory with similar capacity, specifications and brand.
2. Before installing or removing memory modules, please make sure that the computer power is switched off to prevent hardware damage.
3. Memory modules have a foolproof insertion design. A memory module can be installed in only one direction. If you are unable to insert the module, please switch the direction.

The motherboard supports DDR3 memory modules, whereby BIOS will automatically detect memory capacity and specifications. Memory modules are designed so that they can be inserted only in one direction. The memory capacity used can differ with each slot.



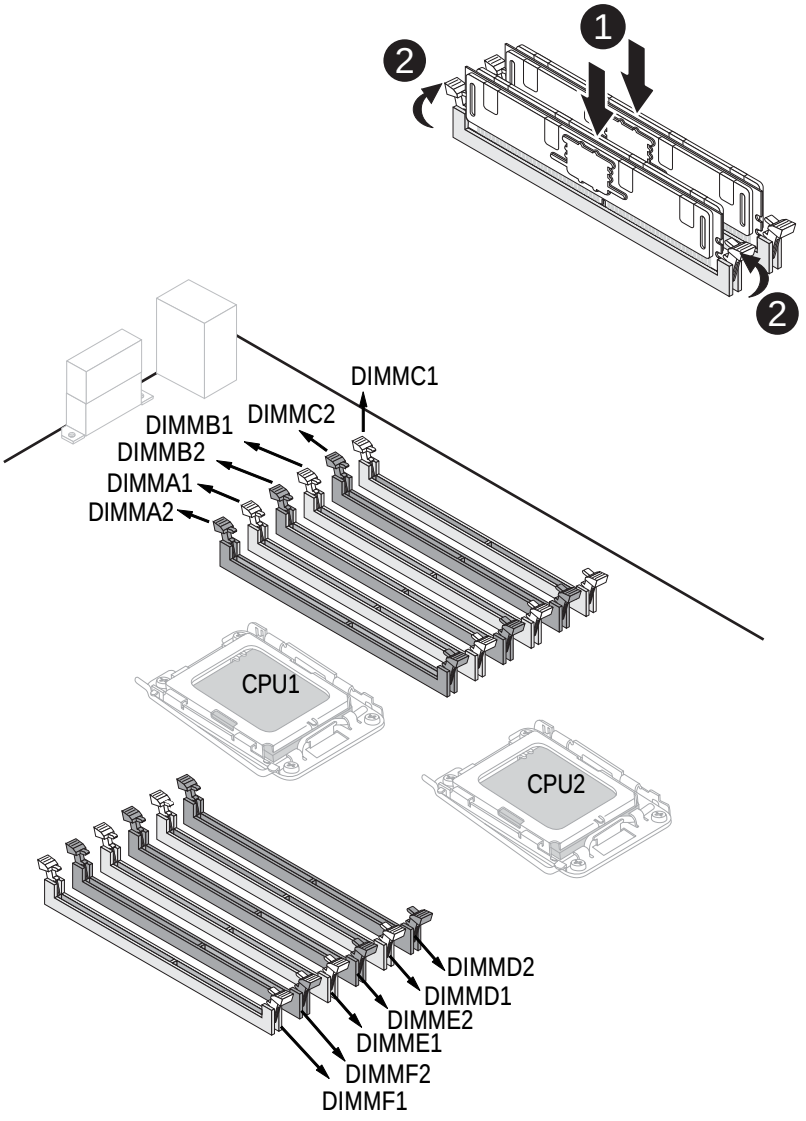
Installation Steps:

Step 1. Insert the DIMM memory module vertically into the DIMM slot, and push it down.

Step 2. Close the plastic clip at both edges of the DIMM slots to lock the DIMM module.

NOTE! DIMM must be populated in order starting from DIMMA1/D1 socket. For dual-channel operation, DIMMs must be installed in matched pairs.

Step 3. Reverse the installation steps when you wish to remove the DIMM module.



U-DIMM Population Table

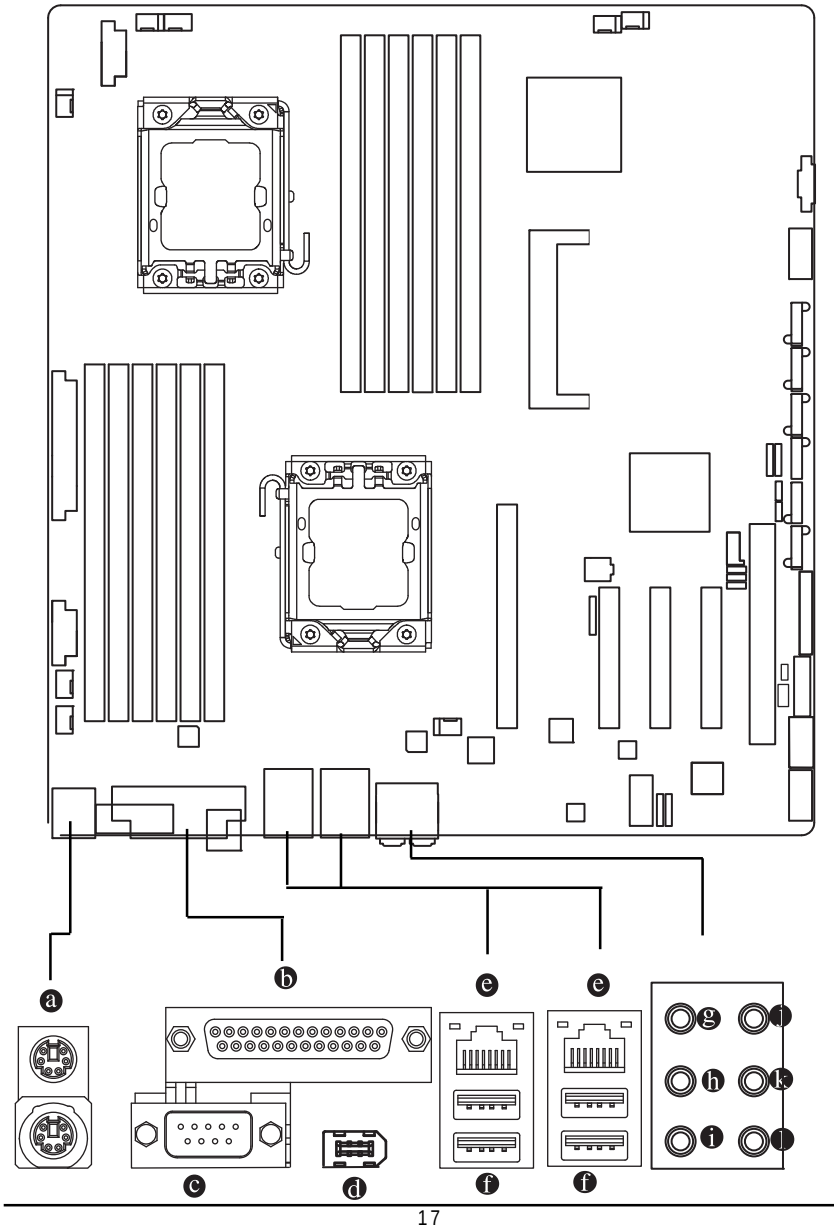
Interleave mode	Channel A		Channel B		Channel C		Total Memory
	DIMMA1/D1	DIMMA2/D2	DIMMB1/E1	DIMMB2/E2	DIMMC1/F1	DIMMC2/F2	
Single Channel	1GB						1GB
	2GB						2GB
	4GB						4GB
Dual Channel	1GB		1GB				2GB
	2GB		2GB				4GB
	4GB		4GB				8GB
	1GB	1GB	1GB	1GB			4GB
	2GB	2GB	2GB	2GB			8GB
	4GB	4GB	4GB	4GB			16GB
Three Channel	1GB		1GB		1GB		3GB
	2GB		2GB		2GB		6GB
	4GB		4GB		4GB		16GB
	1GB	1GB	1GB	1GB	1GB	1GB	6GB
	2GB	2GB	2GB	2GB	2GB	2GB	12GB
	4GB	4GB	4GB	4GB	4GB	4GB	24GB

R-DIMM Population Table

Interleave mode	Channel A		Channel B		Channel C		Total Memory
	DIMMA1/D1	DIMMA2/D2	DIMMB1/E1	DIMMB2/E2	DIMMC1/F1	DIMMC2/F2	
Single Channel	1GB						1GB
	2GB						2GB
	4GB						4GB
	8GB						8GB
Dual Channel	1GB		1GB				2GB
	2GB		2GB				4GB
	4GB		4GB				8GB
	8GB		8GB				16GB
	1GB	1GB	1GB	1GB			4GB
	2GB	2GB	2GB	2GB			8GB
	4GB	4GB	4GB	4GB			16GB
	8GB	8GB	8GB	8GB			32GB
Three Channel	1GB		1GB		1GB		3GB
	2GB		2GB		2GB		6GB
	4GB		4GB		4GB		12GB
	8GB		8GB		8GB		24GB
	1GB	1GB	1GB	1GB	1GB	1GB	6GB
	2GB	2GB	2GB	2GB	2GB	2GB	12GB
	4GB	4GB	4GB	4GB	4GB	4GB	24GB
	8GB	8GB	8GB	8GB	8GB	8GB	48GB

2.3. Connect ribbon cables, cabinet wires, and power supply

2.3.1. I/O Back Panel Introduction



ⓐ PS/2 Keyboard and PS/2 Mouse Connector

To install a PS/2 port keyboard and mouse, plug the mouse to the upper port (green) and the keyboard to the lower port (purple).

ⓑ Parallel Port / Serial Port

This connector supports 1 standard 1 Parallel port. Device like printer can be connected to Parallel port.

ⓒ Serial Port

Connects to serial-based mouse or data processing devices.

ⓓ IEEE1394 Port

Serial interface standard set by Institute of Electrical and Electronics Engineers, which has features with high speed, high bandwidth and hot plug.

ⓔ Gigabit LAN Ports

The LAN port provides Internet connection of Gigabit Ethernet with data transfer speeds of 10/100/1000Mbps.

ⓕ USB Port

Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker...etc. have a standard USB interface. Also make sure your OS supports USB controller. If your OS does not support USB controller, please contact OS vendor for possible patch or driver updated. For more information please contact your OS or device(s) vendors.

ⓖ Line In

The default Line In jack. Devices like CD-ROM, walkman etc. can be connected to Line In jack.

ⓗ Line Out (Front Speaker Out)

The default Line Out (Front Speaker Out) jack. Stereo speakers, earphone or front surround speakers can be connected to Line Out (Front Speaker Out) jack.

ⓘ MIC In

The default MIC In jack. Microphone must be connected to MIC In jack.

ⓙ Surround Speaker Out (Rear Speaker Out)

The default Surround Speaker Out (Rear Speaker Out) jack. Rear surround speakers can be connected to Surround Speaker Out (Rear Speaker Out) jack.

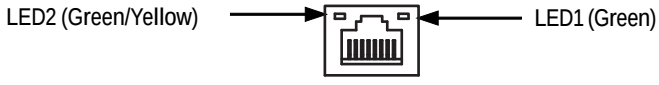
ⓚ Center/Subwoofer Speaker Out

The default Center/Subwoofer Speaker Out jack. Center/Subwoofer speakers can be connected to Center/Subwoofer Speaker Out jack.

❶ Side Speaker Out

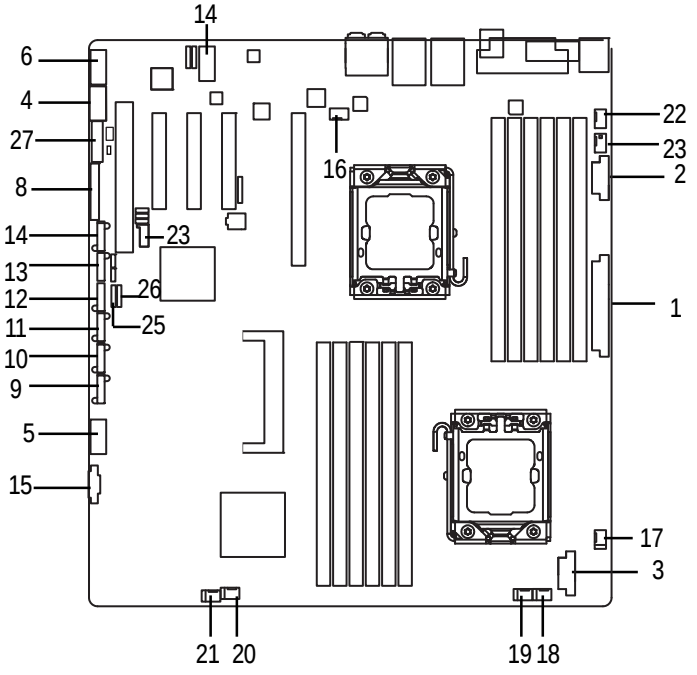
The default Side Speaker Out jack. Surround side speakers can be connected to Side Speaker Out jack.

LAN LED Description



Name	Color	Condition	Description
LED1	Green	ON	LAN Link / no Access
	Green	BLINK	LAN Access
	-	OFF	Idle
LED2	-	OFF	10Mbps connection
	Green	BLINK	Port identification with 10 Mbps connection
	Green	ON	100Mbps connection
	Green	BLINK	Port identification with 100Mbps connection
	Yellow	ON	1Gbps connection
	Yellow	BLINK	Port identification with 1Gbps connection

2.4. Connectors Introduction



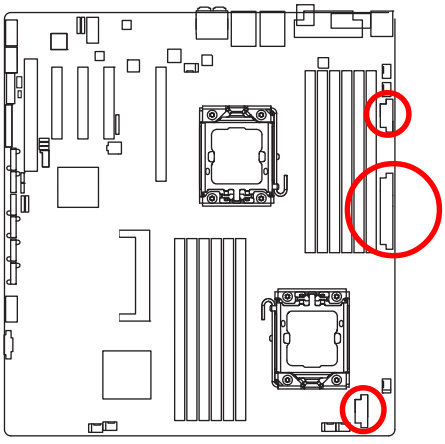
1. ATX
2. 12V_AUX1
3. 12V_AUX2
4. COM2
5. USB1 (Front USB cable connector)
6. F_1394
7. FAUDIO_ACZ
8. F_PANEL
9. SATA0 (SATA data cable connector)
10. SATA1 (SATA data cable connector)
11. SATA2 (SATA data cable connector)
12. SATA3 (SATA data cable connector)
13. SATA4 (SATA data cable connector
14. SATA5 (SATA data cable connector
15. PSMI
16. FAN_CPU1 (CPU1 fan cable connector)
17. FAN_CPU2 (CPU2 fan cable connector)
18. SYS_FAN1 (System fan connector)
19. SYS_FAN2 (System fan connector)
20. SYS_FAN3 (System fan connector)
21. SYS_FAN4 (System fan connector)
22. SYS_FAN5 (System fan connector)
23. SYS_FAN6 (System fan connector)
24. J3
25. SGPIO_JP1
26. SGPIO_JP12
27. BAT

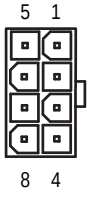
1/2/3) ATX/12V_AUX1/12V_AUX2 (24-pin/8-pin ATX power connectors)

With the use of the power connector, the power supply can supply enough stable power to all the components on the motherboard. Before connecting the power connector, please make sure that all components and devices are properly installed. Align the power connector with its proper location on the motherboard and connect tightly.

The ATX_12V power connector mainly supplies power to the CPU. If the ATX_12V power connector is not connected, the system will not start.

Caution! Please use a power supply that is able to support the system voltage requirements. It is recommended that a power supply that can withstand high power consumption be used (350W or greater). If a power supply is used that does not provide the required power, the result can lead to an unstable system or a system that is unable to start. If you use a power supply that provides a 24-pin ATX power connector, please remove the small cover on the power connector on the motherboard before plugging in the power cord; otherwise, please do not remove it.



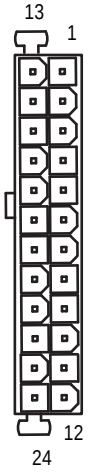


CPU0/DDR3 socket for CPU0

Pin No.	Definition
1	GND
2	GND
3	GND
4	GND
5	P12V_DDR3_CPU0
6	P12V_DDR3_CPU0
7	P12V_CPU0
8	P12V_CPU0

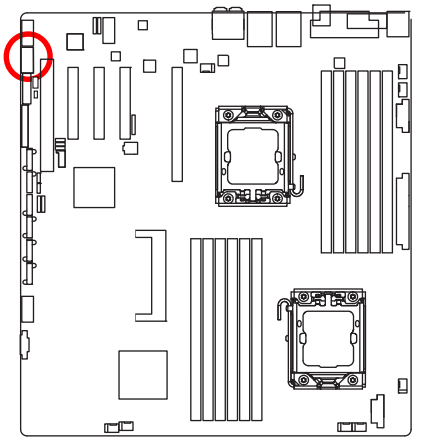
CPU1/DDR3 socket for CPU1

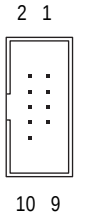
Pin No.	Definition
1	GND
2	GND
3	GND
4	GND
5	P12V_DDR3_CPU1
6	P12V_DDR3_CPU1
7	P12V_CPU1
8	P12V_CPU1



Pin No.	Definition	Pin No.	Definition
1	3.3V	13	3.3V
2	3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON(soft On/Off)
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	Power Good	20	-5V
9	5V SB(stand by +5V)	21	+5V
10	+12V	22	+5V
11	+12V(Only for 24-pin ATX)	23	+5V (Only for 24-pin ATX)
12	3.3V(Only for 24-pin ATX)	24	GND(Only for 24-pin ATX)

4) COM2

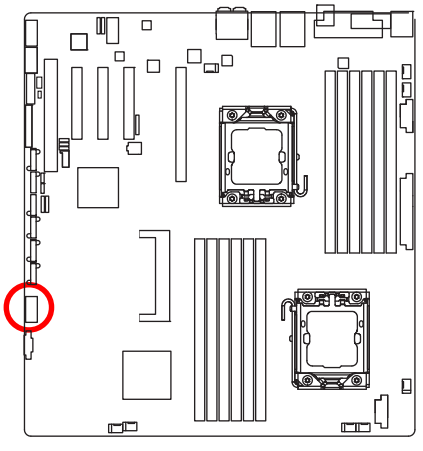


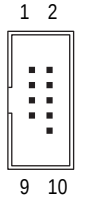


Pin No.	Definition
1	DCD-
2	SIN2
3	SOUT2
4	DTR2-
5	GND
6	DSR2-
7	RTS2-
8	CTS2-
9	RI2-
10	NC

5) USB1 (USB cable connector)

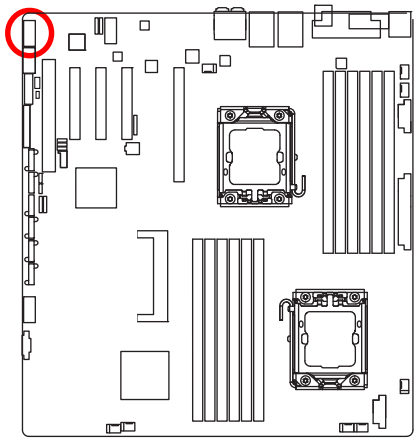
Be careful with the polarity of the front USB connector. Check the pin assignment carefully while you connect the front USB cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional front USB cable, please contact your local dealer.

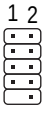




Pin No.	Definition
1	5V power
2	5V power
3	-FUSB4
4	-FUSB5
5	+FUSB4
6	+FUSB5
7	GND
8	GND
9	NC
10	NC

6) F_1394(IEEE 1394 connector)

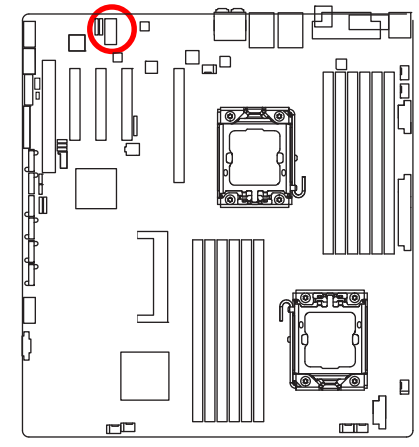




Pin No.	Definition
1	FTPA1+
2	FTPA1-
3	GND
4	GND
5	FTPB1+
6	FTPB1-
7	BUSVCC0
8	BUSVCC0
9	No Pin
10	NC

7) FAUDIO_ACZ1 (Front AUDIO connector)

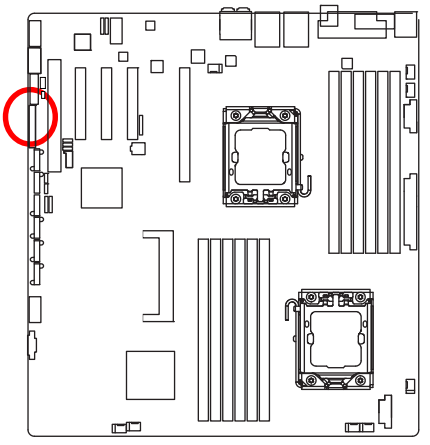
In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assigment on the cable is the same as the pin assigment on the MB header. To find out if the chassis you are buying support front audio connector, please contact your dealer.



Pin No.	Definition
1	MIC
2	GND
3	REF
4	POWER
5	FrontAudio(R)
6	RearAudio(R)
7	Reserved
8	No Pin
9	FrontAudio (L)
10	RearAudio(L)

8) F_PANEL (2X12 Pins Front Panel connector)

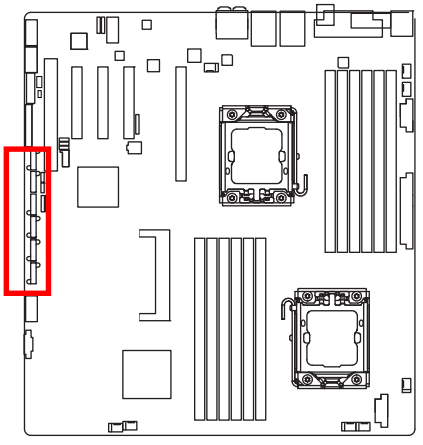
Please connect the power LED, PC speaker, reset switch and power switch of your chassis front panel to the F_PANEL connector according to the pin assignment above.



Pin No.	Signal Name	Description
1.	Power LED +	Power LED Signal anode (+)
2.	5V standby	P5V Stand By Power
3.	Pin reomoved	Pin removed
4.	ID LED+	ID LED Signal anode (+)
5.	Power LED -	Power LED Signal cathode(-)
6.	ID LED -	ID LED Signal cathode(-)
7.	HD status LED+	Hard Disk LED Signal anode (+)
8.	System ready LED+	System Fan Fail LED Signal anode (+)
9.	HD status LED-	Hard Disk LED Signal cathode(-)
10.	System ready LED-	System Fan Fail LED Signal cathode(-)
11.	Power on switch	Power button
12.	LAN1 active LED (-)	LAN1 active LED Signal cathode(-)
13.	GND	Ground
14.	LAN1 active LED (+)	LAN1 active LED Signal anode (+)
15.	Reset switch	Reset button Signal
16.	SMBUS data	SMBusData
17.	GND	Ground
18.	SMBUS clock	SMBusClock
19.	ID LED switch	ID Switch Signal
20.	CASEOPEN	Chassis intrusion Signal
21.	GND	Ground
22.	LAN2 active LED (-)	LAN2 active LED Signal cathode(-)
23.	NMI switch	NMI switch Signal
24.	LAN2 active LED (+)	LAN2 active LED Signal anode (+)

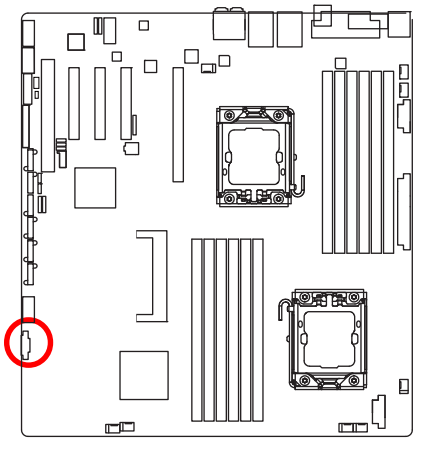
9/ 10/ 11/ 12/ 13/ 14) SATA 0~5 (Serial ATA cable connectors)

SATA 3Gb/s can provide up to 300MB/s stransfer rate. Please refer to the BIOS setting for the SATA 3Gb/s and install the proper driver in order to work properly.



Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

15) PSMI (SMBUS connector for power supply)



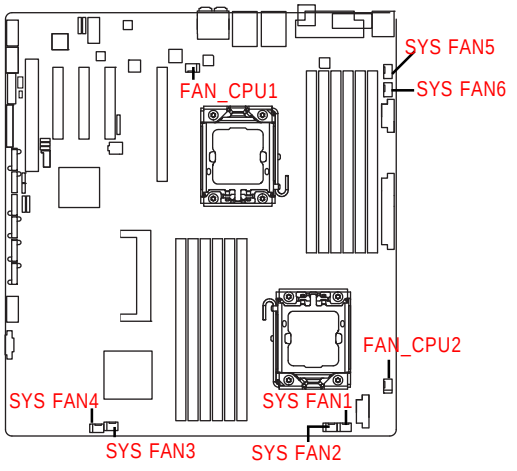
Pin No.	Definition
1	SMBus Clock
2	SMBUS Data
3	SMBUS Alert
4	GND
5	3.3V

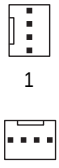
16~23) FAN_CPU1/2 / SYS_FAN1/2/3/4/5/6 (CPU fan / System fan cable connectors)

The cooler fan power connector supplies a +12V power voltage via a 3-pin/4-pin(CPU_FAN) power connector and possesses a foolproof connection design.

Most coolers are designed with color-coded power connector wires. A red power connector wire indicates a positive connection and requires a +12V power voltage. The black connector wire is the ground wire (GND).

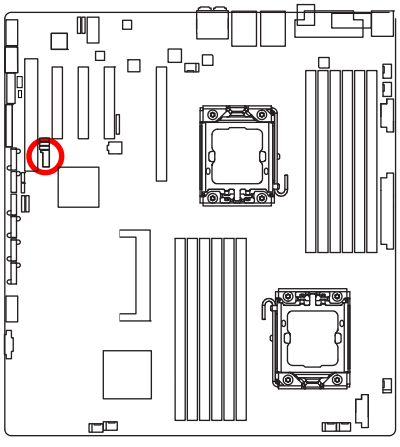
Remember to connect the CPU/system fan cable to the CPU_FAN/SYS_FAN connector to prevent CPU damage or system hanging caused by overheating.





Pin No.	Definition
1	GND
2	12V
3	Sense
4	Control

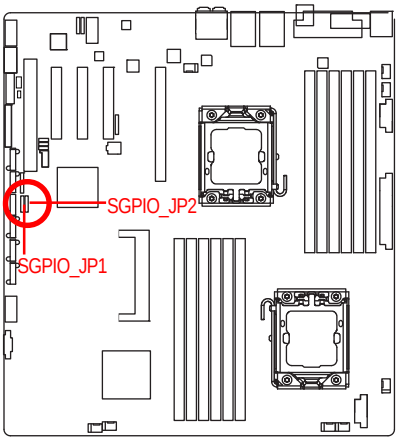
24) J3 (SMBus connector for B/P board)



Pin No.	Definition
1	GND
2	P5V_AUX
3	R_SDA
4	R_SCL

25/26) SGPIO_JP1/SGPIO_JP2 (ICH10 SGPIO connector)

SGPIO is stands for Serial General Purpose Input/Output which is a 4-signal (or 4-wire) bus used between a Host Bus Adapter (HBA) and a backplane. Out of the 4 signals, 3 are driven by the HBA and 1 is driven by the backplane. Typically, the HBA is a storage controller located inside a server, desktop, rack or workstation computer that interfaces with Hard disk drives (HDDs) to store and retrieve data.



SGPIO_JP1

Pin No.	Definition
1	GND
2	NC
3	ICH_SATA_SDATA0
4	ICH_SATA_SLOAD
5	ICH_SATA_SCLOCK

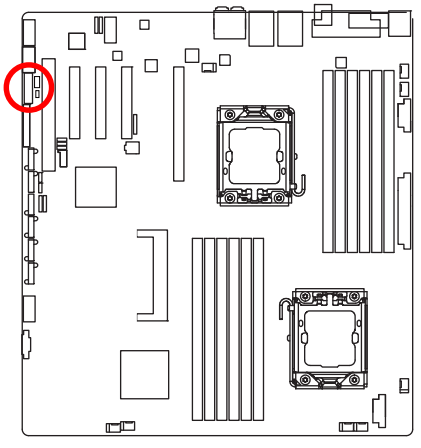
SGPIOJP2

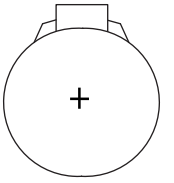
Pin No.	Definition
1	GND
2	NC
3	ICH_SATA_SDATA1
4	ICH_SATA_SLOAD
5	ICH_SATA_SCLOCK

27) BAT (Battery)

If you want to erase CMOS...

1.Turn OFF the computer and unplug the power cord.
2.Remove the battery, wait for 30 second.
3.Re-install the battery.
4.Plug the power cord and turn ON the computer.

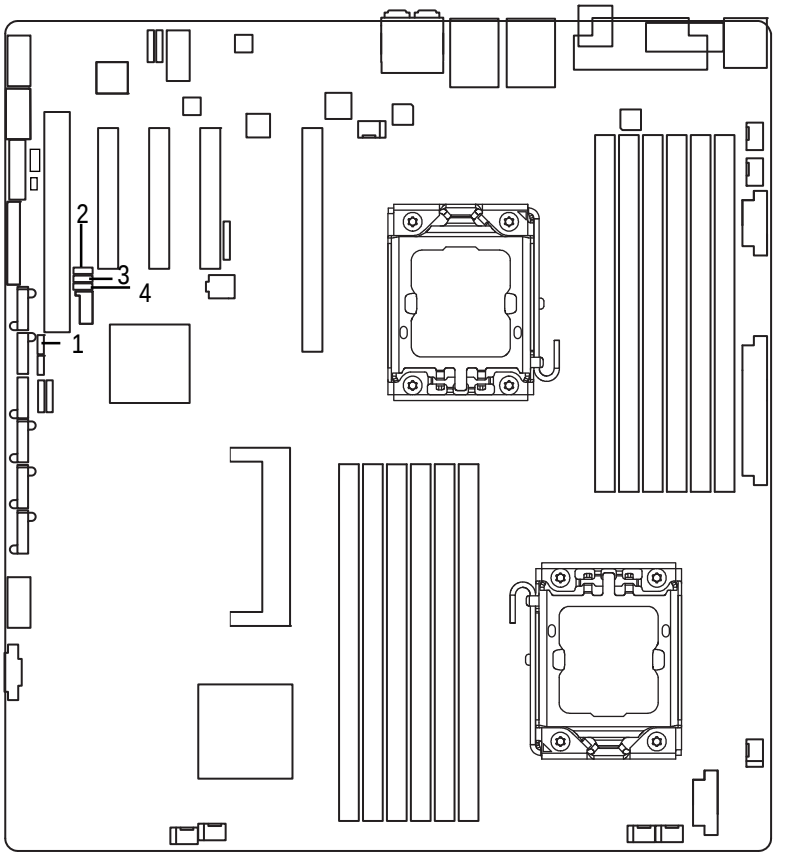




CAUTION

- Danger of explosion if battery is incorrectly replaced.
- Replace only with the same or equivalent type recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

2.5. Jumper Setting



1) CLR_CMOS (Clear CMOS jumper)

You may clear the CMOS data to its default values by this jumper.
Default value doesn't include the "Shunter" to prevent from improper use this jumper. To clear CMOS, temporarily short 2-3 pin.

1-2 close: Normal operation (Default setting)

2-3 close: Clear CMOS

2) CLR_RTC (Clear RTC jumper)

1-2 close: Normal operation. (Default setting)

2-3 close: Clear RTC status

3) BIOS_RVCR (BIOS Revocery jumper)

1-2 close: Normal operation. (Default setting)

2-3 close: Enable BIOS Recovery function.

4) PASS_DIS (Skip Supervisor password jumper)

1-2 Close: Normal operation. (Default setting)

2-3 Close: Clear Supervisor Password in BIOS setup menu.

Chapter 3 BIOS Setup

BIOS (Basic Input and Output System) includes a CMOS SETUP utility which allows user to configure required settings or to activate certain system features.
The CMOS SETUP saves the configuration in the CMOS SRAM of the motherboard.
When the power is turned off, the battery on the motherboard supplies the necessary power to the CMOS SRAM.

ENTERINGSETUP

When the power is turned on, press the <F2> button during the BIOS POST (Power-On Self Test) will take you to the CMOS SETUP screen. You can enter the BIOS setup screen by pressing "Ctrl + F1".

CONTROLKEYS

<↑>	Move to previous item
<↓>	Move to next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Esc>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<+/PgUp>	Increase the numeric value or make changes
<-/PgDn>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F2>	Reserved
<F3>	Reserved
<F4>	Reserved
<F6>	Reserved
<F7>	Reserved
<F8>	Reserved
<F9>	Load the Optimized Defaults
<F10>	Save all the CMOS changes, only for Main Menu

GETTINGHELP

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

Select the Load Setup Defaults item in the BIOS Exit Setup menu when somehow the system is not stable as usual. This action makes the system reset to the default settings for stability.

- **Main**

  This setup page includes all the items in standard compatible BIOS.

- **Advanced**

  This setup page includes all the items of Phoenix BIOS special enhanced features.

  (ex: Auto detect fan and temperature status, automatically configure hard disk parameters.)

- **Power**

  This setup page includes all the items of Green function features.

- **Security**

  Change, set, or disable password. It allows you to limit access the system and setup.

- **Server**

  Server additional features enabled/disabled setup menus.

- **Boot**

  This setup page include all the items of first boot function features.

- **Exit**

  There are five optionsin this selection: Exit Saving Changes, Exit Discarding Changes, Load Optimal Defaults, Load Failsafe Defaults, and Discard Changes.

Main

Once you enter Phoenix BIOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

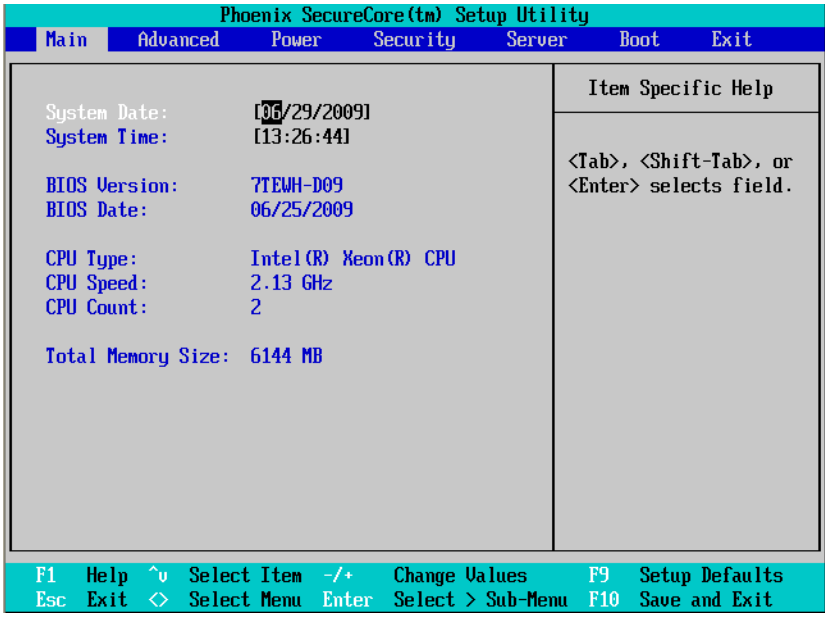


Figure 1: Main

☞ System Date

Set the System Date. Note that the "Day" automatically changed after you set the date.

☞ System Time

The time is calculated based on the 24-hour military time clock. Set the System Time (HH:MM:SS)

☞ CPU Type/CPU Speed/ CPU Count

This category includes the information of CPU type, Speed ,and number of CPU count.

☞ Total Memory

The BIOS determines how much total memory is present during the POST.

Advanced

About This Section: Advanced

With this section, allowing user to configure your system for advanced operation. User can set the Processor configuration, Memory configuration, Advanced chipset control, PCI configuration , SATA configuration, I/O Device configuration, Boot configuration, and Hardware monitor.

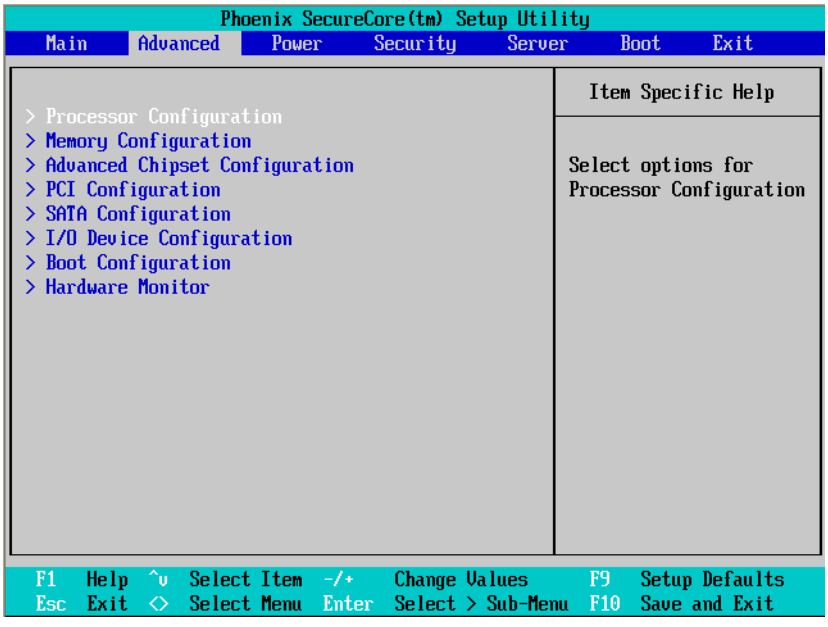
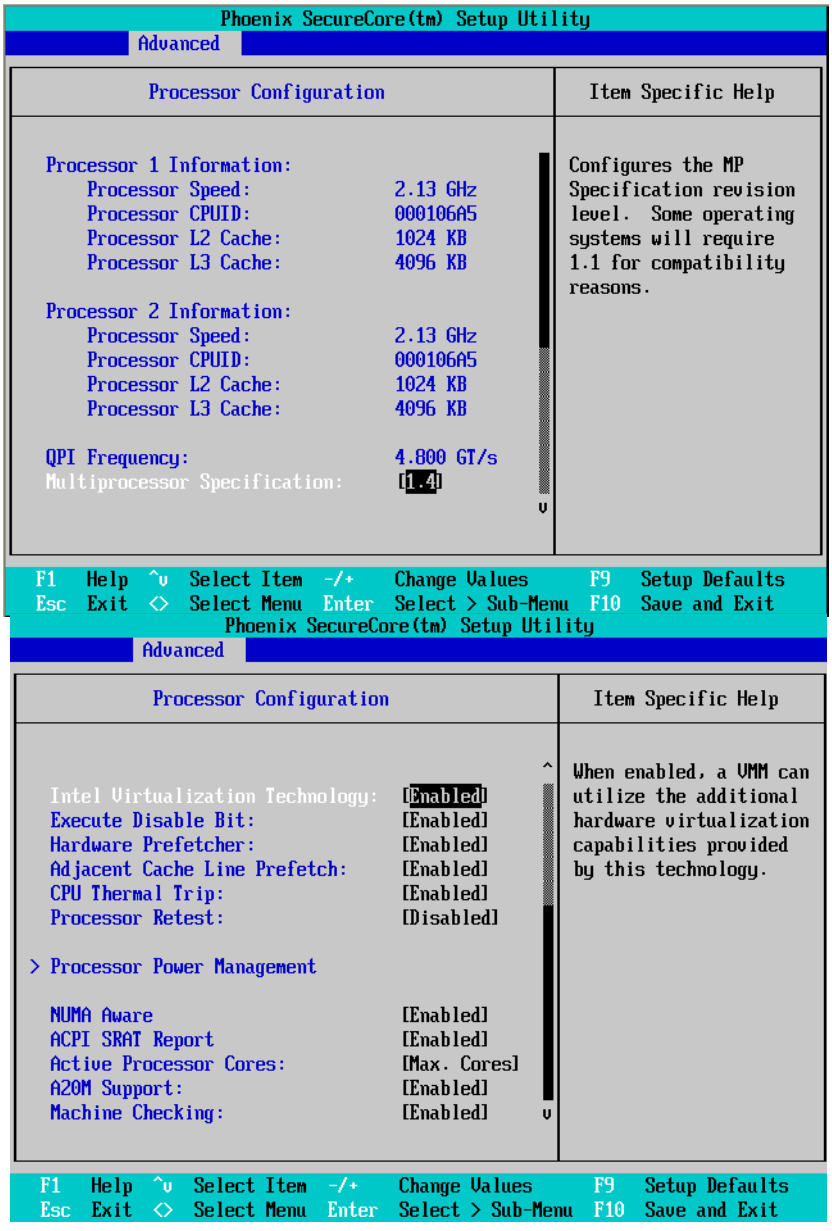
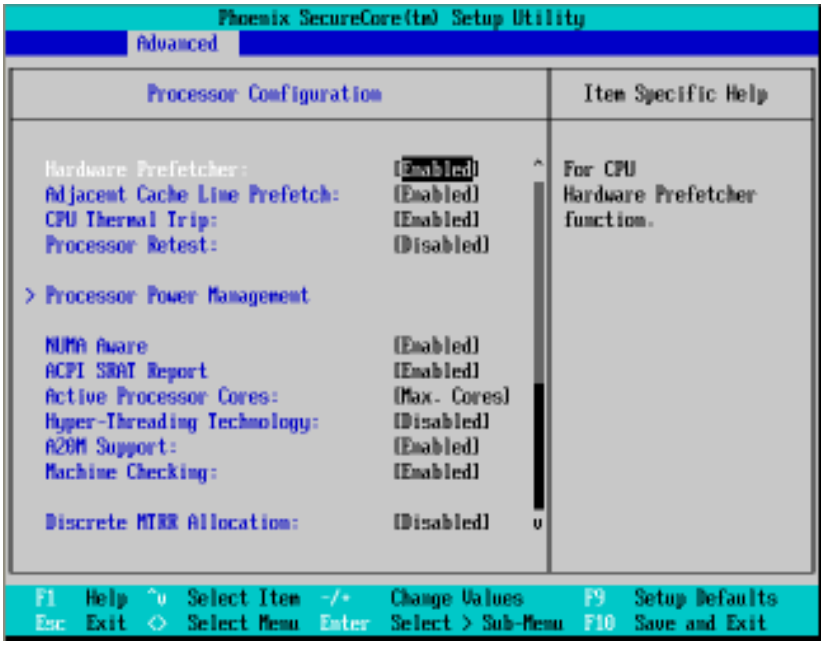


Figure 2: Advanced

Processor Configuration


Phoenix SecureCore(tm) Setup Utility
Advanced
Processor Configuration
Item Specific Help
Processor 1 Information:
Processor Speed: 2.13 GHz
Processor CPUID: 000106A5
Processor L2 Cache: 1024 KB
Processor L3 Cache: 4096 KB
Processor 2 Information:
Processor Speed: 2.13 GHz
Processor CPUID: 000106A5
Processor L2 Cache: 1024 KB
Processor L3 Cache: 4096 KB
QPI Frequency: 4.800 GT/s
Multiprocessor Specification: [1.4]
Configures the MP Specification revision level. Some operating systems will require 1.1 for compatibility reasons.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit
Phoenix SecureCore(tm) Setup Utility
Advanced
Processor Configuration
Item Specific Help
Intel Virtualization Technology: [Enabled]
Execute Disable Bit: [Enabled]
Hardware Prefetcher: [Enabled]
Adjacent Cache Line Prefetch: [Enabled]
CPU Thermal Trip: [Enabled]
Processor Retest: [Disabled]
> Processor Power Management
NUMA Aware [Enabled]
ACPI SRAT Report [Enabled]
Active Processor Cores: [Max. Cores]
A20M Support: [Enabled]
Machine Checking: [Enabled]
When enabled, a VMM can utilize the additional hardware virtualization capabilities provided by this technology.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit


Phoenix SecureCore(tm) Setup Utility
Advanced
Processor Configuration
Item Specific Help
Hardware Prefetcher: [Enabled]
Adjacent Cache Line Prefetch: [Enabled]
CPU Thermal Trip: [Enabled]
Processor Retest: [Disabled]
> Processor Power Management
NUMA Aware [Enabled]
ACPI SRAT Report [Enabled]
Active Processor Cores: [Max. Cores]
Hyper-Threading Technology: [Disabled]
A20M Support: [Enabled]
Machine Checking: [Enabled]
Discrete MTRR Allocation: [Disabled]
For CPU Hardware Prefetcher function.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

☞ Processor Configuration

This category includes the information of CPU Speed, Processor ID ,Processor L2 / L3 Cache, and QPI Frequency. And setup sub-menu for CPU Power Management.

Please note that setup menu options will be variable depends on the type of CPU.

☞Multiprocessor Specification

This option allows user to configure the multiprocessor(MP) specification revision level. Some operating system will require 1.1 for compatibility reasons.

⏩1.4 Support MPS Version 1.4 . (Default setting)

⏩1.1 Support M PS Version 1.1.

☞Intel (R) Virtualization Technology

Intel(R) Virtualization Technology will allow a platform to run multiple operating systems and applications in independent partitions. With virtualization, one computer system can function as multiple “virtual” systems. With processor and I/O enhancements to Intel’s various platforms, Intel Virtualization Technology can improve the performance and robustness of today’s software-only virtual machine solutions.

▶▶Enabled	Enable Intel Virtualization Technology. (Default setting)
▶▶Disabled	Disable this function.

☞**Execute Disable Bit**

▶▶Enabled	Enable Execute Disable Bit. (Default setting)
▶▶Disabled	Disable this function.

☞**Hardware Prefetcher**

The Hardware Prefetcher looks the streams of data. The data is prefetched into L2 from external memory. Disabling of this item may impact processor performance.

▶▶Enabled	Enabled Hardware Prefetcher. (Default setting)
▶▶Disabled	Disables this function.

☞**Adjacent Cache Line Prefetch**

When enable this item, both cache lines that comprise a cache line pair when it determines data required is not currently in its cache.

▶▶Enabled	Adjacent Cache Line Prefetch. (Default setting)
▶▶Disabled	Disables this function.

☞**CPU Thermal Trip**

▶▶Enabled	Enable CPU Thermal Trip. (Default setting)
▶▶Disabled	Disable CPU Thermal Trip.

Processor Retest

▶▶Enabled	Enable Processor Retest.
▶▶Disabled	Disable Processor Retest. (Default setting)

☞**NUMA Aware**

▶▶Enabled	Enable NUMA Aware. (Default setting)
▶▶Disabled	Disable NUMA Aware.

☞**ACPI SRAT Report**

▶▶Enabled	Enable ACPI SRAT Report. (Default setting)
▶▶Disabled	Disable ACPI SRAT Report.

☞**Active Processor Cores**

▶▶Options	One Core, Two cores, Max Cores. Default setting is Max Cores.

☞ Hyper-Threading Technology

⏩Enabled	Enable Intel Hyper Threading Technology.
⏩Disabled	Disable Intel Hyper Threading Technology. (Default setting)

☞ A20M Support

⏩Enabled	Enable A20M Support. (Default setting)
⏩Disabled	Disable A20M Support.

☞ Machine Checking

⏩Enabled	Enable Machine Checking. (Default setting)
⏩Disabled	Disable Machine Checking.

☞ Discrete MTRR Allocation

⏩Enabled	Enable Discrete MTRR Allocation.
⏩Disabled	Disable Discrete MTRR Allocation. (Default setting)

☞ Thermal Management

⏩Enabled	Enable Thermal Management. (Default setting)
⏩Disabled	Disable Thermal Management.

Power Management

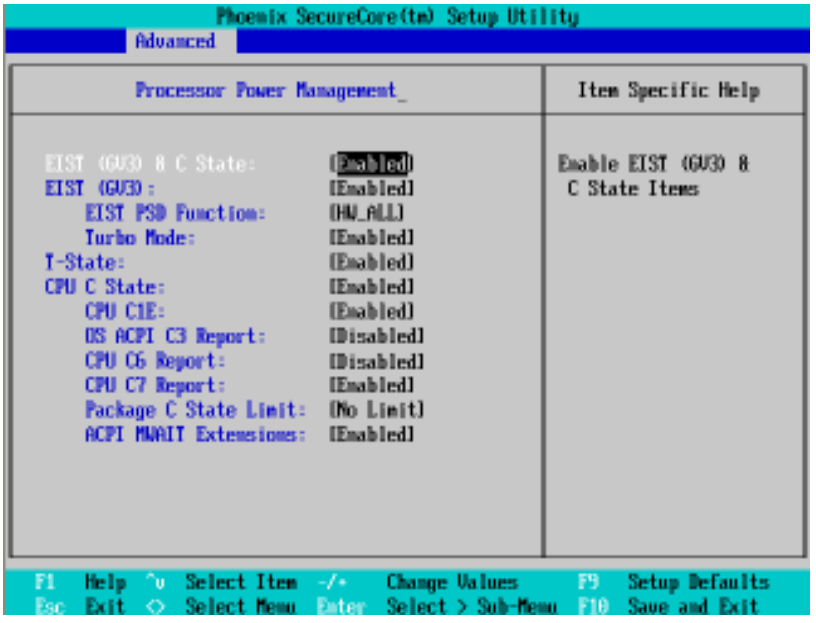

Phoenix SecureCore(tm) Setup Utility
Advanced
Processor Power Management_
Item Specific Help
EIST (GV3) & C State: [Enabled]
EIST (GV3): [Enabled]
EIST PSD Function: [HW_ALL]
Turbo Mode: [Enabled]
T-State: [Enabled]
CPU C State: [Enabled]
CPU C1E: [Enabled]
OS ACPI C3 Report: [Disabled]
CPU C6 Report: [Disabled]
CPU C7 Report: [Enabled]
Package C State Limit: [No Limit]
ACPI MWAIT Extensions: [Enabled]
Enable EIST (GV3) & C State Items
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Figure 2-1-1: Power Management

☞ EIST (GV3) & C State

- ▸▸ Enabled — Enable EIST (GV3) and C State items. (Default setting)
- ▸▸ Disabled — Disable EIST (GV3) and C State items.

☞ EIST (GV3)

- ▸▸ Enabled — Enable EIST (GV3. (Default setting)
- ▸▸ Disabled — Disable EIST (GV3).

☞ EIST PSD Function

- ▸▸ HW_ALL — In HW_ALL mode, the rpocessor hardware is responsible for coordinating the P-state among logical processors dependencies. The OS is responsible for keeping the P-state request up to date on all logical processors. (Default setting)

- SW_ALL — In SW_ALL mode, the OS Power Manager is responsible for coordinating the P-state among loical processors with dependencies and must initiate the transition on all of those Logical Processors.
- SW_ANY — In SW_ANY mode, the OS Power Manager is responsible for corrdinating the P-state among logical processors with dependencies and may initiate the transition on any of those Logical Processors .

☞ TurboMode

Turbo Mode automatically allows processor cores to run faster than marked frequency if the physical processor is operating below power, temperature and current specification limits.

Turbo Mode can be engaged with SMT (Simultanceous Multi Threading) enabled and 1 to 4 cores active and is not limited to only a single core or logical processor.

- Enabled — Turbo Mode. (Default setting)
- Disabled — Disable Turbo Mode.

☞ T State

- Enabled — Enable CPU T-State. (Default setting)
- Disabled — Disable T-State.

☞ CPU C State

- Enabled — Enable ACPI C-State (C0, C1/C1E, C3, C6 and C7). (Default setting)
- Disabled — Disable C-State.

☞ CPUC1E

- Enabled — Enable CPU C1E. (Default setting)
- Disabled — Disable CPU C1E.

☞ OS ACPI C3 Report

- C3 — Desire state for the Nehalem core C3 state include in the CST as ACPI C3 state.
- C2 — Desire state for the Nehalem core C2 state include in the CST as ACPI C2 state.
- Disabled — Disable OS ACPI C3 Report. (Default setting)

☞ CPU C6 Report

- Enabled — Desire state for the Nehalem core C6 state include in the CST as ACPI C3

state.

- Disabled — Disable CPU C6 Report. (Default setting)

☞ CPU C7 Report

- Enabled — Desire state for the Nehalem core C7 state include in the CST as ACPI C3 state. (Default setting)
- Disabled — Disable CPU C7 Report.

☞ Package C State Limit

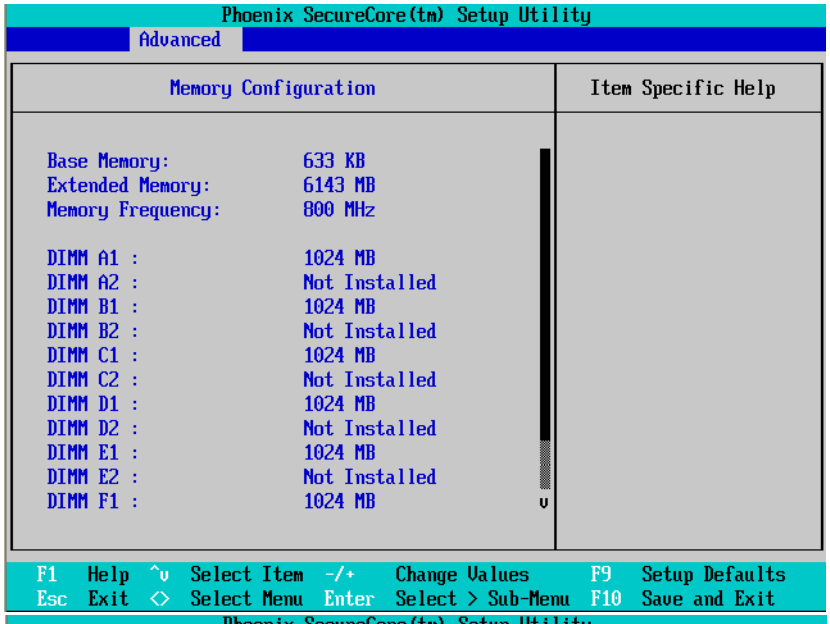
Desired state for the C-State package limit.

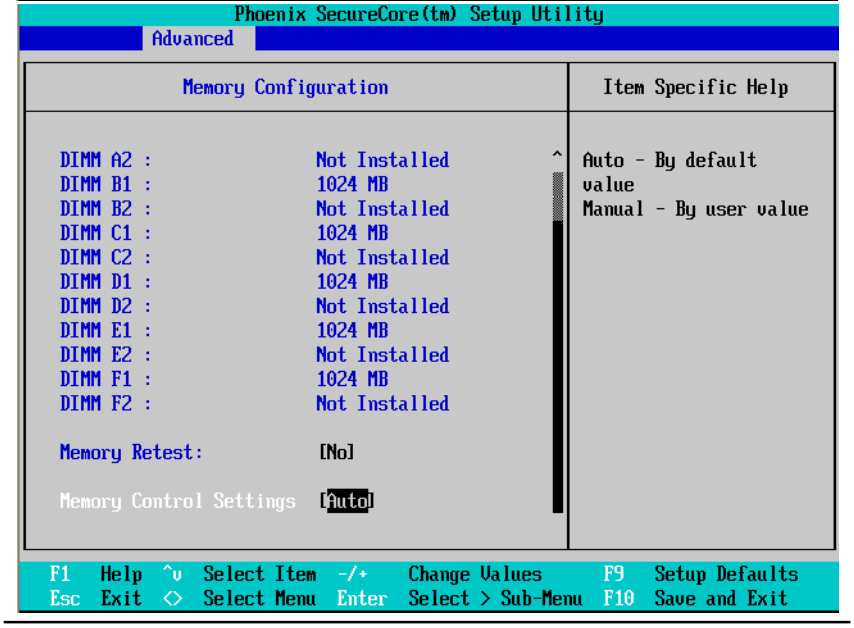
- Options — C0, C1 State, C3 State, C6 State, C7 State, No Limit. The default setting is No Limit.

☞ ACPI MWAIT extensions

- Enabled — CST using MWAIT extension isenabled for OSPM use.
- Disabled — Disable ACPI MWAIT extensions.

Memory Configuration


Phoenix SecureCore(tm) Setup Utility
Advanced
Memory Configuration
Item Specific Help
Base Memory: 633 KB
Extended Memory: 6143 MB
Memory Frequency: 800 MHz
DIMM A1 : 1024 MB
DIMM A2 : Not Installed
DIMM B1 : 1024 MB
DIMM B2 : Not Installed
DIMM C1 : 1024 MB
DIMM C2 : Not Installed
DIMM D1 : 1024 MB
DIMM D2 : Not Installed
DIMM E1 : 1024 MB
DIMM E2 : Not Installed
DIMM F1 : 1024 MB
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit


Phoenix SecureCore(tm) Setup Utility
Advanced
Memory Configuration
Item Specific Help
DIMM A2 : Not Installed
DIMM B1 : 1024 MB
DIMM B2 : Not Installed
DIMM C1 : 1024 MB
DIMM C2 : Not Installed
DIMM D1 : 1024 MB
DIMM D2 : Not Installed
DIMM E1 : 1024 MB
DIMM E2 : Not Installed
DIMM F1 : 1024 MB
DIMM F2 : Not Installed
Memory Retest: [No]
Memory Control Settings [Auto]
Auto - By default value
Manual - By user value
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

☞Base Memory/Extended Memory/DIMM Status

These category is display-only which is determined by POST (Power On Self Test) of the BIOS.

☞Memory Reset

▶▶ Yes	Select 'Yes', system will clear the memory error status. Save the changes and restart system. After rebooting system, the Memory Reset item will set to 'No' automatically.
▶▶ No	No chnages. (Default setting)

☞Memory Control Settings

▶▶ Manual	Select 'Manual" will pops up sub-menu for configuration.
▶▶ Auto	Auto configuration. (Default setting)

Advanced Chipset Configuration

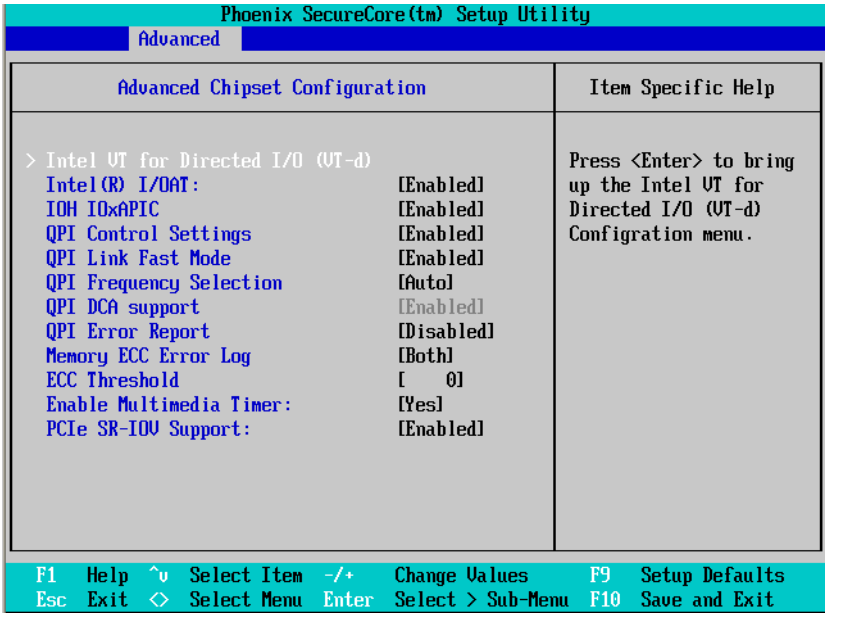

Phoenix SecureCore(tm) Setup Utility
Advanced
Advanced Chipset Configuration
Item Specific Help
> Intel VT for Directed I/O (VT-d)
Intel(R) I/OAT: [Enabled]
IOH IOxAPIC [Enabled]
QPI Control Settings [Enabled]
QPI Link Fast Mode [Enabled]
QPI Frequency Selection [Auto]
QPI DCA support [Enabled]
QPI Error Report [Disabled]
Memory ECC Error Log [Both]
ECC Threshold [0]
Enable Multimedia Timer: [Yes]
PCIe SR-IOV Support: [Enabled]
Press <Enter> to bring up the Intel VT for Directed I/O (VT-d) Configration menu.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Figure 2-3: Advanced Chipset Configuration

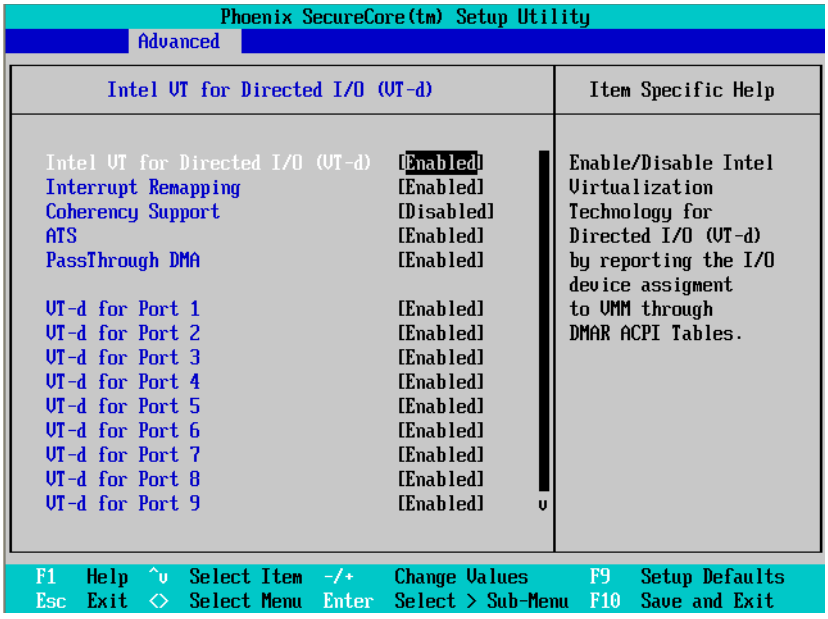

Phoenix SecureCore(tm) Setup Utility
Advanced
Intel VT for Directed I/O (VT-d)
Item Specific Help
Intel VT for Directed I/O (VT-d) [Enabled]
Interrupt Remapping [Enabled]
Coherency Support [Disabled]
ATS [Enabled]
PassThrough DMA [Enabled]
VT-d for Port 1 [Enabled]
VT-d for Port 2 [Enabled]
VT-d for Port 3 [Enabled]
VT-d for Port 4 [Enabled]
VT-d for Port 5 [Enabled]
VT-d for Port 6 [Enabled]
VT-d for Port 7 [Enabled]
VT-d for Port 8 [Enabled]
VT-d for Port 9 [Enabled]
Enable/Disable Intel Virtualization Technology for Directed I/O (VT-d) by reporting the I/O device assigment to VMM through DMAR ACPI Tables.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Figure 2-3-1: Intel VT for Directed I/O (VT-d)

☞ **Intel VT for Directed I/O (VT-d)**

☞ **Interrupt Remapping**

⏩Enabled Enable Interrupt Remapping. (Default setting)

⏩Disabled Disable Interrupt Remapping.

☞ **Coherency Support**

⏩Enabled Enable Coherency Support.

⏩Disabled Disable Coherency Support. (Default setting)

☞ **ATS**

⏩Enabled Enable ATS. (Default setting)

⏩Disabled Disable ATS.

☞ **PassThrough DMA**

⏩Enabled Enable PassThrough DMA. (Default setting)

⏩Disabled Disable PassThrough DMA.

☞ **VT-d for Port1~Port 10**

⏩Enabled Enable VT-d support for Port 1~Port 10 ports through ATSR structures in ACPI Tables. (Default setting)

⏩Disabled Disable VT-d for Port1~Port 10.

☞ **Advanced Chipset Control Main Menu Options**

☞ **Intel (R) I/OAT**

⏩Enabled Enable configuration mapped accesses to the I/OAT configuration sapce. (Default setting)

⏩Disabled Disable I/OAT.

☞ **IOH IOxAPIC**

⏩Enabled Enable IOH IOxAPIC function (Default setting)

⏩Disabled Disable I/OAT.

☞ **QPI Control Settings**

⏩Enabled Enable QPI Control settings. (Default setting)

⏩Disabled QPI Control settings.

☞ **QPI Link Fast Mode**

⏩Enabled Enable QPI Link Fast Mode. (Default setting)

⏩Disabled Disable QPI Link Fast Mode.

☞ **QPI Frequency Selection**

▶▶Identify the desire value of QPI frequency. Option available: Auto, 4.800GT, 5.866GT. Default setting is Auto.

☞ **QPI DCA Support**

▶▶Enabled Enable QPI DCA Support. (Default setting)

▶▶Disabled Disable QPI DCA Support.

☞ **QPI Error Report**

▶▶Enabled Enable QPI Error Report.

▶▶Disabled Disable QPI Error Report. (Default setting)

☞ **Memory ECC Error Log**

▶▶Identify the the memory ecc error log. Option available: Disable, Correctable Error, Uncorrectable Error, and Both. The default setting is Both.

☞ **ECC Threshold**

▶▶Use the "+" and "-" keys to adjust the desire value of ECC Threshold.

☞ **Enable Multimedia Timer**

▶▶Yes Enable Multimedia Timer support. (Default setting)

▶▶No Disable this function.

☞ **PCIe SR-IOV Support**

▶▶Enabled Enable PCIe SR-IOV Support. (Default setting)

▶▶Disabled Disable this function.

PCI Configuration

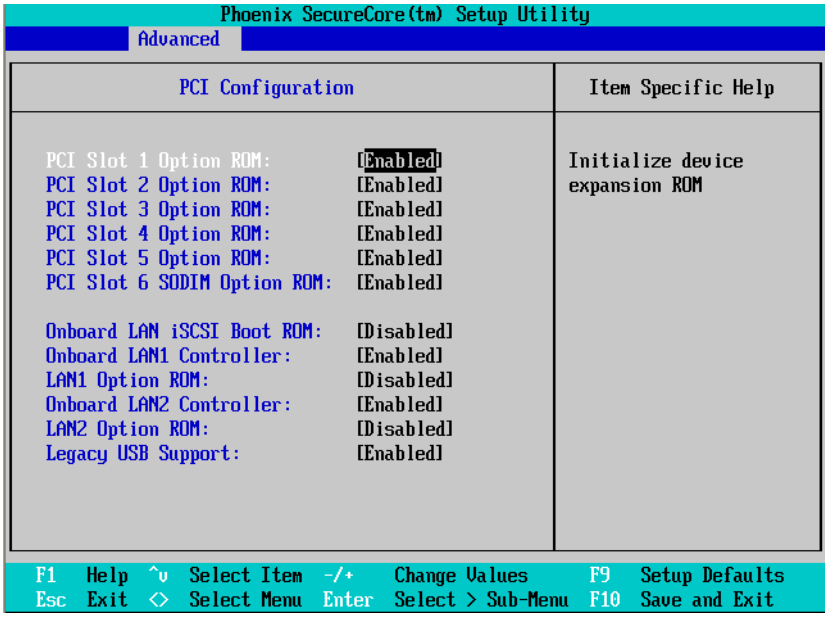

Phoenix SecureCore(tm) Setup Utility
Advanced
PCI Configuration
Item Specific Help
PCI Slot 1 Option ROM: [Enabled]
PCI Slot 2 Option ROM: [Enabled]
PCI Slot 3 Option ROM: [Enabled]
PCI Slot 4 Option ROM: [Enabled]
PCI Slot 5 Option ROM: [Enabled]
PCI Slot 6 SODIM Option ROM: [Enabled]
Onboard LAN iSCSI Boot ROM: [Disabled]
Onboard LAN1 Controller: [Enabled]
LAN1 Option ROM: [Disabled]
Onboard LAN2 Controller: [Enabled]
LAN2 Option ROM: [Disabled]
Legacy USB Support: [Enabled]
Initialize device expansion ROM
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Figure 2-4: PCI Configuration

☞ PCI Slot 1/2/3/4/5 Option ROM

▸▸ Enabled	Enable this item to initialize device expansion ROM. (Defualt setting)
▸▸ Disabled	Disable this function.

☞ PCI Slot 6 SODIMM Option ROM

▸▸ Enabled	Enable this item to initialize device expansion ROM. (Defualt setting)

☞ Onboard LAN iSCSI Boot ROM

▸▸ Enabled	Enable Onboard LAN iSCSI Boot ROM.
▸▸ Disabled	Disable this function. (Defualt setting)
▸▸ Disabled	Disable this function.

☞ Onboard LAN1 Controller

▸▸ Enabled	Enable Onboard LAN controller. (Defualt setting)
▸▸ Disabled	Disable this function.

☞ LAN1Option ROM Scan

⏩ Enabled	Enable onboard LAN1 device and initialize device expansion ROM.
⏩ Disabled	Disable this function. (Default setting)

☞ Onboard LAN2 Controller

⏩ Enabled	Enable Onboard LAN controller. (Defualt setting)
⏩ Disabled	Disable this function.

☞ LAN2Option ROM Scan

⏩ Enabled	Enable onboard LAN2 device and initialize device expansion ROM.
⏩ Disabled	Disable this function. (Default setting)

☞ Legacy USB Support

This option allows user to function support for legacy USB.

⏩ Enabled	Enables support for legacy USB (Default setting)
⏩ Disabled	Disables support for legacy USB.

SATA Configuration

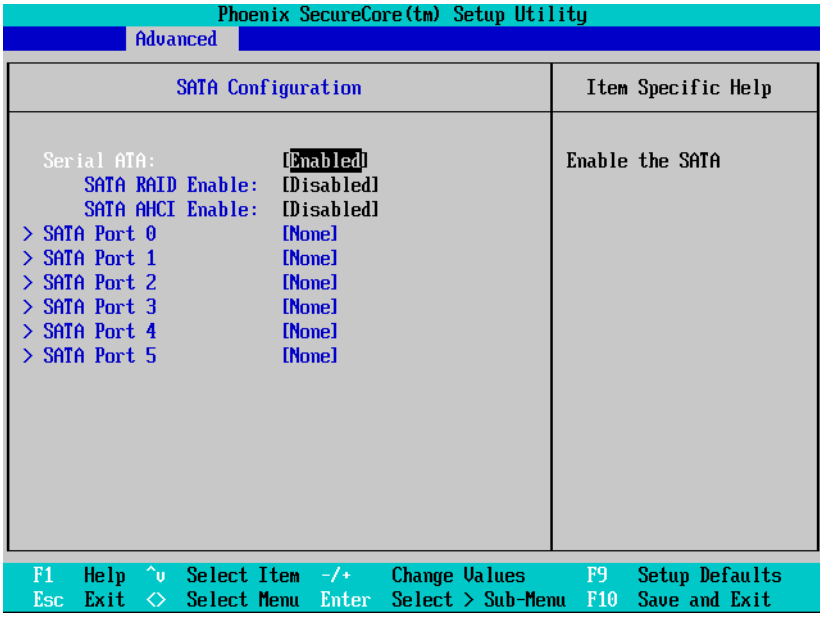

Phoenix SecureCore(tm) Setup Utility
Advanced
SATA Configuration
Item Specific Help
Serial ATA: [Enabled]
SATA RAID Enable: [Disabled]
SATA AHCI Enable: [Disabled]
> SATA Port 0 [None]
> SATA Port 1 [None]
> SATA Port 2 [None]
> SATA Port 3 [None]
> SATA Port 4 [None]
> SATA Port 5 [None]
Enable the SATA
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Figure 2-5: SATA Configuration

☞Serial ATA

▸▸Enabled Enables on-board serial ATA function. (Default setting)

▸▸Disabled Disables on-board serial ATA function.

▸▸SATA RAID Enable

▸▸Enabled Enabled SATA RAID function.

▸▸Disabled Disable this function. (Default setting)

▸▸SATA AHCI Enable

▸▸Enabled Set this item to enable SATA AHCI function for WinXP-SP1+IAA driver supports AHCI mode.

▸▸Disabled Disabled this function. (Default setting)

☞ SATA Port 0/1/2/3/4/5

The category identifies the types of Serial SATA hard disk from drive 0 to 5 that has been installed in the computer. System will automatically detect HDD type.

Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

Hard drive information should be labled on the outside device casing. Enter the appropriate option based on this information.

▶▶ TYPE

1-39: Predefined types.

Users: Set parameters by User.

Auto: Set parameters automatically. (Default setting)

CD-ROM: Use for ATAPI CD-ROM drives or double click [Auto] to set all HDD parameters automatically.

ATAPI Removable: Removable disk drive is installed here.

▶▶ Multi-Sector Transfer

This field displays the information of Multi-Sector Transfer Mode.

Disabled: The data transfer from and to the device occurs one sector at a time.

Auto: The data transfer from and to the device occurs multiple sectors at a time if the device supports it.

▶▶ LBA Mode — This field shows if the device type in the specific IDE channel support LBA Mode.

▶▶ 32-Bit I/O — Enable this function to max imize the IDE data transfer rate.

▶▶ Transfer Mode — This field shows the information of Teansfer Mode.

▶▶ Ultra DMA Mode — This filed displays the DMA mode of the device in the specific IDE channel.

I/O DeviceConfiguration

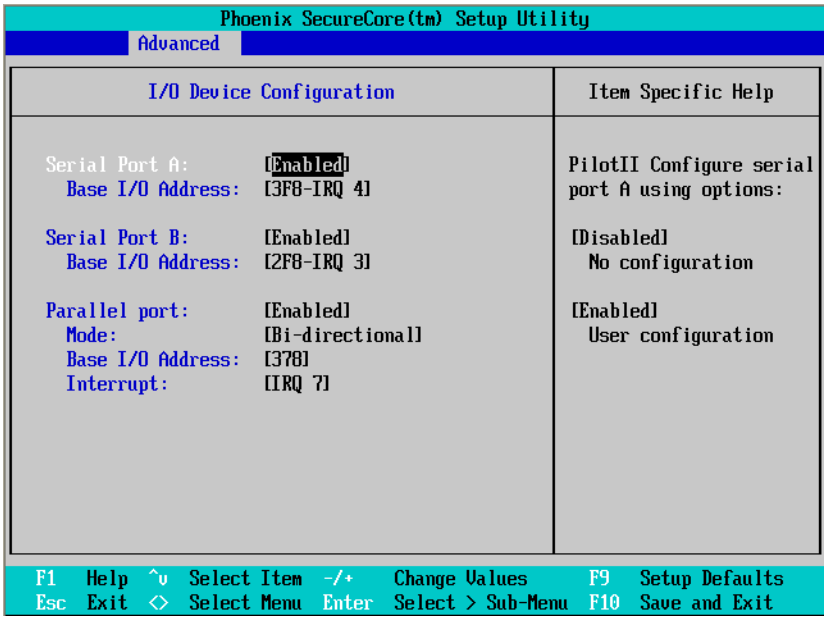

Phoenix SecureCore(tm) Setup Utility
Advanced
I/O Device Configuration
Item Specific Help
Serial Port A: [Enabled]
Base I/O Address: [3F8-IRQ 4]
Serial Port B: [Enabled]
Base I/O Address: [2F8-IRQ 3]
Parallel port: [Enabled]
Mode: [Bi-directional]
Base I/O Address: [378]
Interrupt: [IRQ 7]
PilotII Configure serial port A using options:
[Disabled]
No configuration
[Enabled]
User configuration
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Figure 2-6: I/O Device Configuration

☞ Serial Port A

This allows users to configure serial prot A by using this option.

- ▶▶Enabled — Enable the configuration. (Default setting)
- ▶▶Disabled — Disable the configuration.

▶▶Base I/O Address/IRQ

- ▶▶ 3F8/IRQ4 — Set IO address to 3F8/IRQ4.(Default setting)
- ▶▶2F8/IRQ3 — Set IO address to 2F8/IRQ3.
- ▶▶3E8/IRQ4 — Set IO address to 3E8/IRQ4.
- ▶▶2E8/IRQ3 — Set IO address to 2E8/IRQ3.

☞ Serial Port B

This allows users to configure serial prot B by using this option.

- ▶▶Enabled — Enable the configuration (Default setting)
- ▶▶Disabled — Disable the configuration.

▶▶Base I/O Address/IRQ

▶▶ 3F8/IRQ4 Set IO address to 3F8/IRQ4.

▶▶2F8/IRQ3 Set IO address to 2F8/IRQ3. (Default setting)

▶▶3E8/IRQ7 Set IO address to 3E8/IRQ7.

▶▶2E8/IRQ35 Set IO address to 2E8/IRQ5.

☞Parallel Port

This allows users to configure parallel port by using this option.

▶▶Enabled Enable the configuration. (Default setting)

▶▶Disabled Disable the configuration.

▶▶ Mode

This option allows user to set Parallel Port transfer mode.

▶▶Bi-directional Use this setting to support bi-directional transfers on the parallel port. (Default setting)

▶▶EPP Using Parallel port as Enhanced Parallel Port.

▶▶ECP Using Parallel port as Extended Capabilities Port.

▶▶ Base I/O Address

▶▶378 Set IO address to 378. (Default setting)

▶▶278 Set IO address to 278.

▶▶ Iterrupt

▶▶IRQ5 Set Interrupt as IRQ5.

▶▶IRQ7 Set Interrupt as IRQ7. (Default setting)

Boot DeviceConfiguration

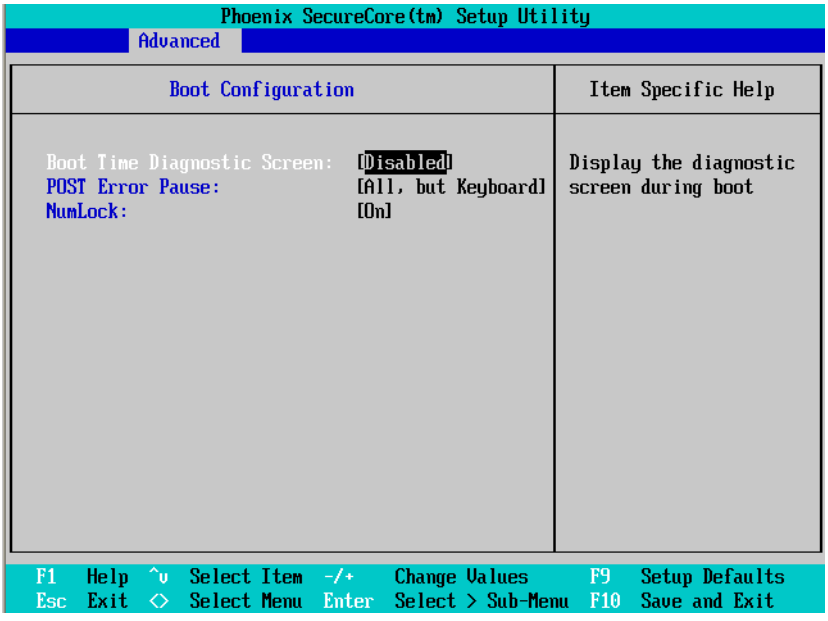

Phoenix SecureCore(tm) Setup Utility
Advanced
Boot Configuration
Item Specific Help
Boot Time Diagnostic Screen: [Disabled]
POST Error Pause: [All, but Keyboard]
NumLock: [On]
Display the diagnostic screen during boot
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Figure 2-7: Boot Configuration

☞Boot -time Diagnostic

When this item is enabled, system will shows Diagnostic status when system boot.

- ▸▸Enabled Enable Boot-time Diagnostic.
- ▸▸Disabled Disable this function. (Default setting)

☞Post Error Pause

The category determines whether the computer will stop if an error is detected during power up.

- ▸▸All Error Whenever the BIOS detects a non-fatal error the system will be stopped.
- ▸▸No Error The system boot will not stop for any error that may be detected and you will be prompted.
- ▸▸All, But Keyboard The system boot will not stop for a keyboard error; it will stop for all other errors. (Default setting)

☞**NumLock**

This option allows user to select power-on state for NumLock.

▸▸On	Enable NumLock. (Default setting)
▸▸Off	Disable this function.

Haradware Monitor

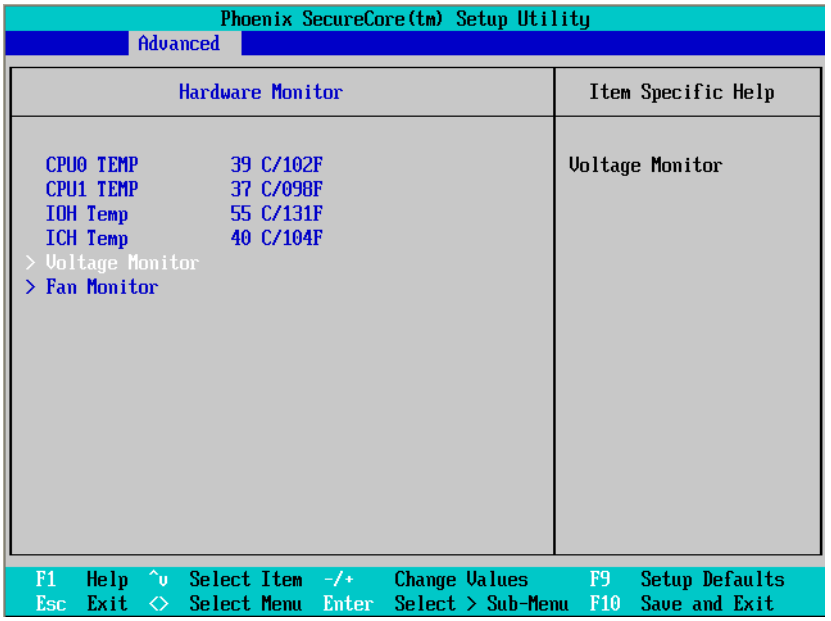

Phoenix SecureCore(tm) Setup Utility
Advanced
Hardware Monitor
Item Specific Help
CPU0 TEMP 39 C/102F
CPU1 TEMP 37 C/098F
IOH Temp 55 C/131F
ICH Temp 40 C/104F
> Voltage Monitor
> Fan Monitor
Voltage Monitor
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Figure 2-8: Hardware Monitor

☞ **CPU0/1 Temperature/ IOH Temperature/ ICH Temperature**

▸▸Display the current CPU1/CPU2 temperature, and northbridge/ south bridge chipset temperature.

☞ **Voltage Monitor: P_VCCP0/ P_VCCP1/ P_1V1_IOH/ P12V/ P5V/ P3V3/ P1V5_ICH**

▸▸Detect system's voltage status automatically.

☞ **Fan Monitor: CPU1/2 Fan/ System Fan 1/2/3/4/5/6**

▸▸Display the current CPU 1/CPU2 fan speed, system fan 1/2/3/4/5/6 speed.

Power

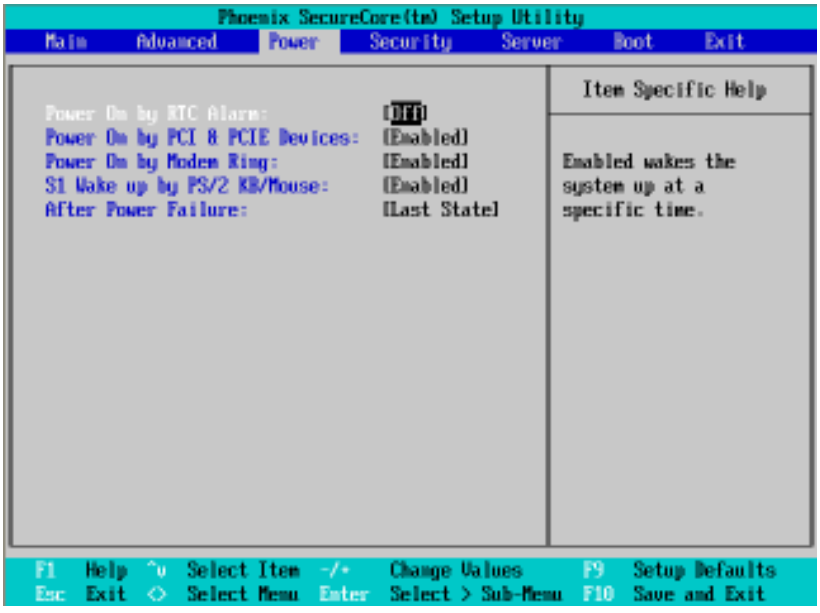

Phoenix SecureCore(tm) Setup Utility
Main
Advanced
Power
Security
Server
Boot
Exit
Power On by RTC Alarm: [Off]
Power On by PCI & PCIE Devices: [Enabled]
Power On by Modem Ring: [Enabled]
S1 Wake up by PS/2 KB/Mouse: [Enabled]
After Power Failure: [Last State]
Item Specific Help
Enabled wakes the system up at a specific time.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Figure 3: Power

☞Power On by RTC Alarm

You can set item to Enabled and key in Date/Time to power on system.

▸▸On Enable alarm function to POWER ON system. (Default setting)

▸▸Off Disable this function. (Default setting)

If Resume On Time is set to On status:

▸▸RTC Alarm control select: Manual/Auto

▸▸Time (0~23) : (0~59) : (0~59)

☞Power On PCI & PCIE Devices

▸▸Enabled Enable Power On PCI & PCIe Devices. (Default setting)

▸▸Disabled Disable this function.

☞Resume On Modem Ring

▸▸On Enable Resume on Modem Ring. (Default setting)

▸▸Off Disable Resume on Modem Ring.

☞S1 Wake up by PS/2 KB/Mouse

- ⏩Enabled — Enable S1 Wake up by PS/2 KB/Mouse. (Default setting)
- ⏩Disabled — Disable this function.

☞After Power Failure

This option provides user to set the mode of operation if an AC / power loss occurs.

- ⏩Power On — System power state when AC cord is re-plugged.
- ⏩Stay Off — Do not power on system when AC power is back.
- ⏩Last State — Set system to the last sate when AC power is removed. Do not power on system when AC power is back. (Default setting)

Security

About This Section: Security

In this section, user can set either supervisor or user passwords, or both for different level of password securities. In addition, user also can set the virus protection for boot sector.

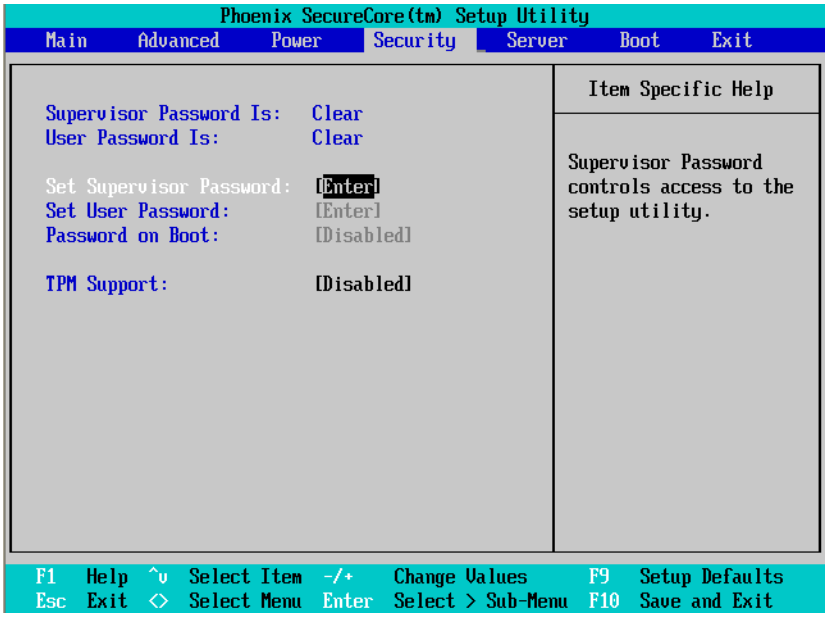


Figure 4: Security

Set Supervisor Password

You can install and change this options for the setup menus. Type the password up to 6 characters in lengh and press <Enter>. The password typed now will clear any previously entered password from the CMOS memory. You will be asked to confirm the entered password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a specified password or press <Enter> key to disable this option.

☞Set User Password

You can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Type the password up to 6 characters in lengh and press <Enter>. The password typed now will clear any previously entered password from the CMOS memory. You will be asked to confirm the entered password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a specified password.

☞Password on boot

Password entering will be required when system on boot.

⏩Enabled	Requries entering password when system on boot.
⏩Disabled	Disable this function. (Default setting)

☞TPM Support

TPM, stands for Trusted Platform Module. A Trusted Platform Module provides function for secure generation of cryptographic keys, the ability to limit the use of cryptographic keys, as well as a hardware pseudo-random number generator.

⏩Enabled	Enable TPM Support.
⏩Disabled	Disable this function. (Default setting)

Server

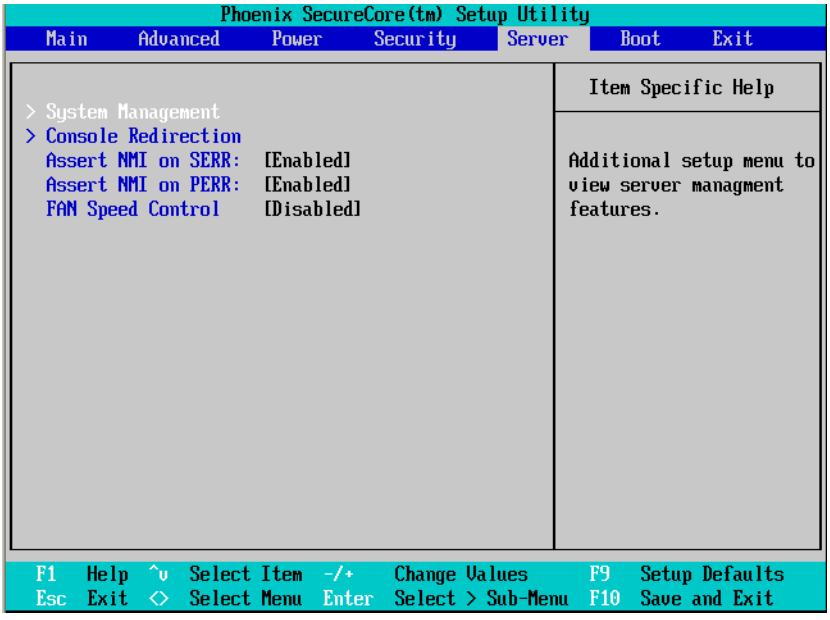

Phoenix SecureCore(tm) Setup Utility
Main Advanced Power Security Server Boot Exit
> System Management
> Console Redirection
Assert NMI on SERR: [Enabled]
Assert NMI on PERR: [Enabled]
FAN Speed Control [Disabled]
Item Specific Help
Additional setup menu to view server managment features.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Figure 5: Server

☞Assert NMI on SERR

If thisoption is set to enabled, PCI bus system error (SERR) is enabled and is routed to NMI.

▶▶Enabled	Enable Assert NMI on SERR. (Default setting)
▶▶Disabled	Disable this function.

☞Assert NMI on PERR

▶▶Enabled	Enable Assert NMI on PERR. (Default setting)
▶▶Disabled	Disable this function.

☞Fan Speed Control

▶▶Enabled	Enable Fan speed control.
▶▶Disabled	Disable this function. (Default setting)

System Management

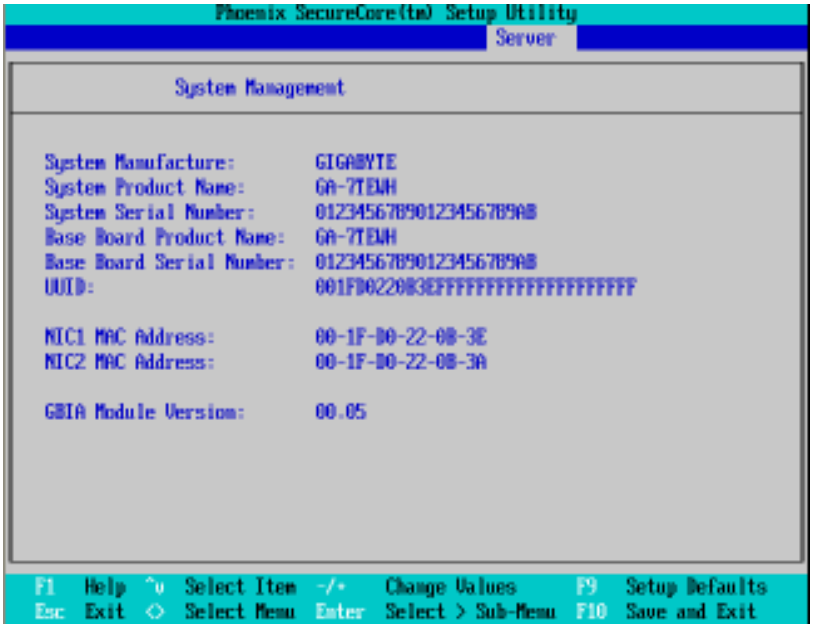

Phoenix SecureCore(tm) Setup Utility
Server
System Management
System Manufacture: GIGABYTE
System Product Name: GA-7TEWH
System Serial Number: 0123456789012345678900
Base Board Product Name: GA-7TEWH
Base Board Serial Number: 0123456789012345678900
UUID: 001FD0220083EFFFFFFFFFFFFFFFFFFF
MIC1 MAC Address: 00-1F-D0-22-00-3E
MIC2 MAC Address: 00-1F-D0-22-00-3A
GBIA Module Version: 00.05
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Figure 5-1: System Management

☞Server Management

This category allows user to view the server management features. Including information of Motherboard Hardware information and software information.

Console Redirection

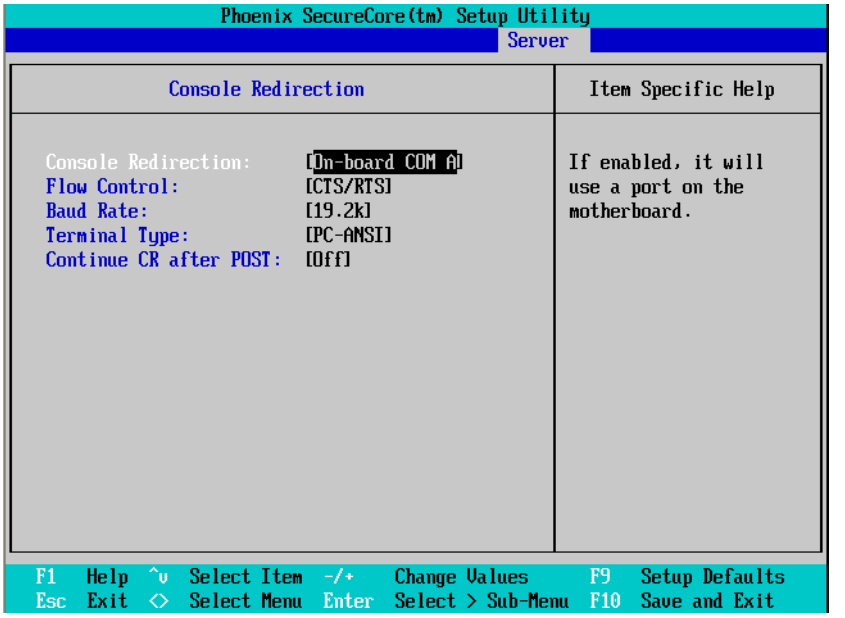

Phoenix SecureCore(tm) Setup Utility
Server
Console Redirection
Item Specific Help
Console Redirection: [On-board COM A]
Flow Control: [CTS/RTS]
Baud Rate: [19.2k]
Terminal Type: [PC-ANSI]
Continue CR after POST: [Off]
If enabled, it will use a port on the motherboard.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Figure 5-2: Console Redirection

☞Console Redirection

If this option is set to enabled, it will use a port on the motherboard to run console redirection function.

- ▸▸On-board COM A — Use Serial Port A as the COM port address.
- ▸▸On-board COM B — Use Serial Port B as the COM port address.
- ▸▸ Disabled — Disable this function. (Default setting)

☞Flow Control

This option provide user to enable the flow control function.

- ▸▸ None — Not supported.
- ▸▸XON/OFF — Software control.
- ▸▸ CTS/RTS — Hardware control. (Default setting)

☞Baud Rate

This option allows user to set the specified baud rate.

▶▶Options 300, 1200, 2400, 9600, 19.2K, 38.4K, 57.6K, 115.2K.

☞Terminal Type

This option allows user to select the specified terminal type. This is defined by IEEE.

▶▶Options VT100, VT100 8bit, PC-ANSI 7bit, VT100+, VT-UTF8, ASCII.

☞Continue C.R. after POST

This option allows user to enable console redirection after O.S has loaded.

▶▶On Enable console redirection after O.S has loaded.

▶▶Off Disable this function. (Default setting)

Boot

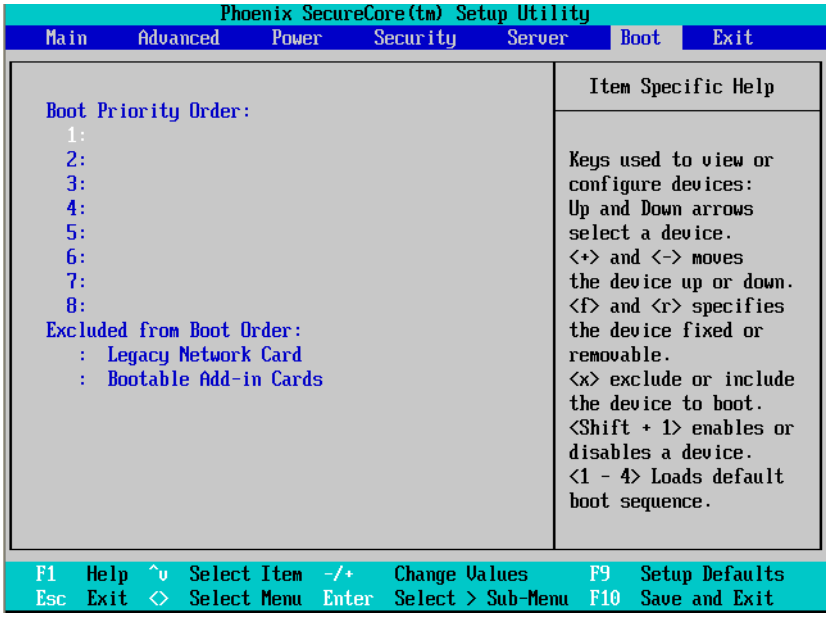


Figure 6: Boot

☞Boot Priority Order

This field determines which type of device the system attempt to boot from after PhoenixBIOS Post completed. Specifies the boot sequence from the available devices. If the first device is not a bootable device, the system will seek for next available device.

Key used to view or configure devices:

Up and Down arrows select a device.

<+> and <-> moves the device up or down.

<f> and <r> specifies the device fixed or removable.

<x> exclude or include the device to boot.

<Shift + 1> Enable or disable a device.

<1-4> Loads default boot secquence.

Exit

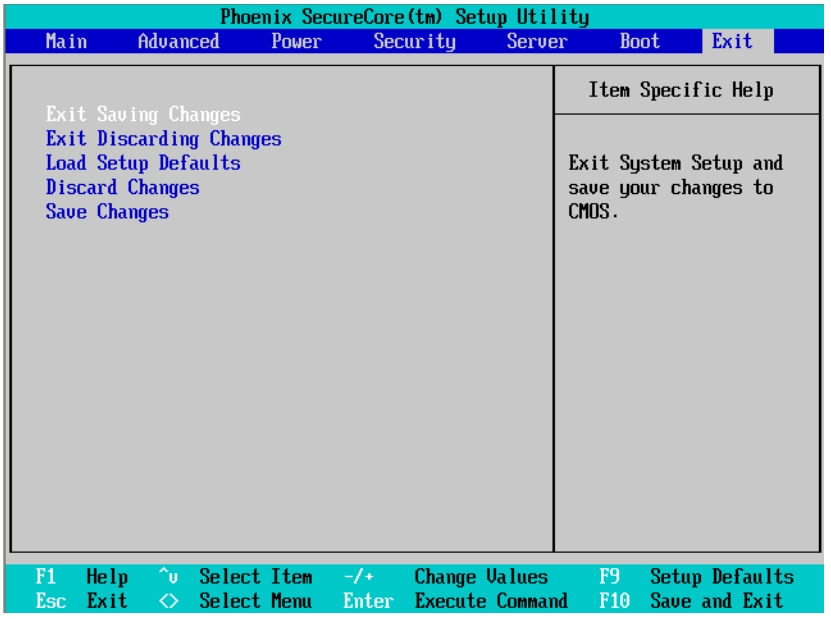

Phoenix SecureCore(tm) Setup Utility
Main Advanced Power Security Server Boot Exit
Exit Saving Changes
Exit Discarding Changes
Load Setup Defaults
Discard Changes
Save Changes
Item Specific Help
Exit System Setup and save your changes to CMOS.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Execute Command F10 Save and Exit

Figure 7: Exit

☞ About This Section: Exit

Once you have changed all of the set values in the BIOS setup, you should save your changes and exit BIOS setup program. Select **"Exit"** from the menu bar, to display the following sub-menu.

☞ Exit Saving Changes

This option allows user to exit system setup with saving the changes.

Press <Enter> on this item to ask for the following confirmation message:

Pressing 'Y' to store all the present setting values tha user made in this time into CMOS.

Therefore, whenyou boot up your computer next time, the BIOS will

re-configure your system according data in CMOS.

☞Exit Discarding Changes

This option allows user to exit system setup without changing anyprevious settings values in CMOS. The previous selection remain in effect.

This will exit the Setup Utility and restart your compuetr when selecting this option.

☞Load Settup Default

if you highlight this item and press Enter, a dialog box asks if you want to install optimal settings for all the items in the Setup utility. Press the Y key to indicate Yes, and then press Enter to install the optimal settings.

☞Discard Changes

Select this item and press Enter to discard any changes you have made without leaving the setup utility.

☞Save Changes

This option allows user to save setup dat ato CMOS.

Press [Yes] to save setup data to CMOS.